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## ANH Challenges FDA for Blocking Government-Backed Health Claims

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**FOR IMMEDIATE RELEASE**

September 1, 2025

## **ANH Challenges FDA for Blocking Government-Backed Health Claims**

**ALEXANDRIA, VA; September 1.** The Alliance for Natural Health USA (ANH), alongside industry partners Living Fuel International, Health Ranger Store, Inc., and Cardio Miracle, has filed a petition with the U.S. Food and Drug Administration (FDA), challenging the agency's decades-long misapplication of federal law that has blocked consumers from accessing truthful information concerning how nutrients reduce the risk of disease.

At issue is FDA's 1998 guidance, which unlawfully imposed the **Significant Scientific Agreement (SSA) standard on health claims** based on "authoritative statements" issued by federal scientific bodies such as the National Institutes of Health, Centers for Disease Control and Prevention, and National Academy of Sciences. **Congress expressly exempted these claims** from SSA requirements in the 1997 Food and Drug Administration Modernization Act (FDAMA).

Instead, under FDAMA, such claims were to be made available immediately after FDA notification—unless the agency rescinded them through formal rulemaking. By ignoring the statute's plain language and congressional intent, FDA has unlawfully suppressed at least 125 nutrient-disease health claims backed by authoritative government science.

**"Americans face unacceptably high rates of diet-related diseases—ranging from obesity and fatty liver disease to diabetes, high blood pressure, and cognitive decline,"** said Robert Verkerk, Ph.D., ANH's Executive and Scientific Director. **"One major reason is that consumers are denied at the point of sale access to accurate, government published information about how nutrients reduce disease risk. Our petition simply seeks to uphold the law, effectively allowing the republication of government speech, so that this vital information can reach consumers at the point of sale and help reduce disease burdens."**

The petition by ANH aims to open the marketplace to 125 health claims in a single instance, which, if successful would amount to a precedent-setting breakthrough in consumer access to truthful disease risk reduction information. It builds on ANH's long history of legal victories advancing consumer access to nutrient-disease information, including the **landmark Pearson v. Shalala (1999)** case spearheaded by Jonathan Emord, Esq., now ANH General Counsel, that established the right to use qualified nutrient-disease risk reduction claims for dietary supplements. Over the last two decades, ANH has helped secure claims for nutrients such as folate, saw palmetto, omega-3 fatty acids, fiber, vitamin E, vitamin B, and selenium.

The legal landscape shifted dramatically in 2024 when the U.S. Supreme Court decided **Loper Bright Enterprises v. Raimondo**, overturning the Chevron doctrine that gave agencies broad deference in interpreting ambiguous statutes. Under this new precedent, FDA's 1998 guidance is now vulnerable, as its requirements contradict the clear text of FDAMA and Congress's express intent.

**"For more than a quarter-century, the FDA has acted in open defiance of Congress, blocking the very health claims lawmakers required it to allow,"** said Jonathan Emord. **"With Chevron deference now gone, FDA must implement fully the FDAMA exception to FDA's significant scientific agreement prior restraint on speech. This petition is about restoring the rule of law, ending unlawful censorship, and opening the nutrient marketplace to truthful, science-based disease risk reduction information as never before. It will improve health, increase longevity, and save lives."**

With rates of preventable, diet-related diseases at alarming levels, ANH argues that FDA's unlawful censorship harms the public by keeping science-based information out of the market. The organization is seeking FDA compliance with the law to fulfil one key element of the MAHA agenda: access to critical health claims derived from authoritative government science.

**END.**

#### **ABOUT THE ALLIANCE FOR NATURAL HEALTH USA**

The Alliance for Natural Health USA is a nonprofit advocacy organization dedicated to protecting access to natural health options, promoting sustainable health freedom policies, and empowering consumers with truthful, science-based information to make informed choices about their health.

Find out more at: [www.anh-usa.org](http://www.anh-usa.org).

#### **CONTACT**

For further information, contact Dr. Robert Verkerk at [office@anh-usa.org](mailto:office@anh-usa.org) or call (703) 879-4440.

# Background

## Alliance for Natural Health Petition to Open the Market to Health Claims Based on Authoritative Statements

### Overview

A longstanding legal and regulatory dispute centers on how the US Food and Drug Administration (FDA) interprets and applies health claim requirements for food and supplements under 21 USC § 343(r)(3)(C). At the heart of this case is the FDA's 1998 Guidance,<sup>1</sup> which imposed Significant Scientific Agreement (SSA) requirements on health claims made by the government itself that Congress explicitly intended to exempt from such scrutiny.

The Alliance for Natural Health USA (ANH) contends that, for decades, the FDA has misapplied the law to prevent the public from accessing, at the point of sale, critical information about how foods and supplements impact health. This censorship is detrimental to public health, particularly at a time when preventable, diet-related diseases have reached alarming levels in children and adults.

### Statutory Background

In 1997, Congress passed the Food and Drug Administration Modernization Act (FDAMA), codified at 21 USC § 343(r)(3)(C). FDAMA provides an avenue to allow health claims on food and supplement labels that are based on "authoritative statements" made by federal government scientific bodies with responsibility for nutrition research (e.g., the National Institutes of Health, Centers for Disease Control and Prevention, the National Cancer Institute, and the National Academy of Sciences, and others).

Congress expressly exempted such claims from the burdensome SSA standard. Instead, it allowed the claims to be used immediately after FDA notification—unless or until the agency rescinded them through formal rulemaking.

In the legislative history of FDAMA, Congress explained its rationale for exempting health claims based on authoritative statements from the SSA requirement. For example, the Senate Report<sup>2</sup> criticized the existing process—where health claims are only permitted after FDA approves each

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<sup>1</sup> See ["Guidance for Industry: Notification of a Health Claim or Nutrient Content Claim Based on an Authoritative Statement of a Scientific Body"](#) (June 1998)

<sup>2</sup> See U.S. Senate Report 105-43, 105<sup>th</sup> Cong., 1<sup>st</sup> Sess. (1997).

specific claim—as “inefficient” and failing to take full advantage of the careful, science-based deliberations conducted by authoritative public health bodies.

The Senate Report also made clear that the amendment aimed to prevent the kind of FDA obstruction and delay that arose from the agency’s decade-long failure to authorize the CDC’s folic acid/neural tube defect claim for dietary supplement labels (a claim won for the public in a suit filed by Jonathan Emord, now ANH’s General Counsel, on behalf of ANH and other parties). That delay stemmed from FDA’s rejection of the claim under the SSA standard, and then from prolonged inaction—even as Congress faulted FDA for preventable neural tube defect births occurred at the time.

Contrary to FDA’s position, the statute exempts authoritative government statements about nutrients reducing the risk of disease from the SSA standard. The statute states that “notwithstanding the provisions” of 343(r)(B) (that is, the SSA standard)...a nutrient-disease relationship claim or health claim... **shall be authorized** and may be made with respect to a food” (emphasis added) if:

1. The claim is an official statement from a recognized federal scientific body responsible for public health or nutrition research.
2. The statement is accurately summarized and is from the agency itself (not an agency scientist acting in his or her individual capacity)

### **The FDA’s 1998 Guidance and Its Controversy**

Despite the plain meaning of the statute and Congress’s intent, the FDA issued its guidance in 1998 requiring SSA preclearance for the very authoritative statements from other government health agencies that were statutorily exempt from SSA. That FDA misinterpretation effectively nullified the congressional exemption and kept in place high wall censorship barriers preventing the public from accessing nutrient-disease information at the point of sale.

### **Impact of *Loper Bright Enterprises v. Raimondo***

In *Loper Bright Enterprises v. Raimondo* (2024), the US Supreme Court overturned the Chevron doctrine, which had long given federal agencies broad deference in interpreting ambiguous statutes. In that decision, the Court ruled that it is now the judiciary’s sole responsibility to determine what the law means, significantly curbing agency power to reinterpret statutes beyond their text.

When *Loper Bright* is applied to the FDA's 1998 Guidance, it is vulnerable to attack. The Guidance, a misnomer because it functions as a rule, is in the ANH cross-hairs with its current petition. Its requirement for SSA preclearance contradicts the unambiguous language of 21 USC § 343(r)(3)(C), which Congress crafted specifically to eliminate that requirement for claims based on authoritative statements. Under *Loper Bright*, FDA must revise its treatment of authoritative government statements and allow them into the market to align with the plain statutory language.

### **Legal Precedent: *Pearson v. Shalala* and ANH's Role**

This filing builds on the landmark First Amendment decision in *Pearson v. Shalala* (1999), a suit led by Jonathan Emord and brought on behalf of ANH (then the American Preventive Medical Association) and others. That ruling established the right to use qualified health claims for dietary supplements. In *Pearson*, ANH and co-plaintiffs were vindicated in their First Amendment right over FDA censorship to inform the public that folate containing dietary supplements during pregnancy could prevent neural tube defects. In *Pearson*, the court held that the FDA had to henceforth favor disclosure over suppression of nutrient-disease relationship claims that were backed by credible scientific evidence. But FDA has never fully implemented the *Pearson* decision, and its continuing suppression of FDAMA health claims is a prime example.

ANH followed *Pearson* with a series of additional lawsuits spearheaded by Emord that expanded access to qualified health claims for nutrients such as saw palmetto, omega-3 fatty acids, fiber, vitamin E, vitamin B, and selenium. These cases laid the legal foundation for challenging the FDA's ongoing suppression of credible, government-backed health information.

While these were landmark victories that secured health claims, ANH's current filing aims to open the marketplace to nearly 140 health claims in a single instance—a precedent-setting breakthrough in consumer access to truthful health information.

### **A Fight for Health Access**

This case highlights critical issues at the intersection of public health, regulatory overreach, and free speech. With diet-related diseases on the rise and the current administration advancing initiatives like MAHA (Make America Healthy Again), it's more important than ever to help the public understand that some food ingredients—especially nutrients—can offer significant health benefits. Yet current FDA policy blocks access to truthful,

science-based claims about these benefits—even when the source of the information is the government itself.

The filing brings attention to FDA censorship that keeps us ill and sacrifices lives. It vindicates First Amendment rights, as FDA's policy is restricting truthful, non-misleading speech. Ultimately, this is about restoring access to credible health information that can help people make better choices for their health. It is part of a broader ANH initiative to restore legal protection for the basic American right to receive truthful nutrient-disease information at the point of sale.

September 1, 2025

**VIA EMAIL AND  
OVERNIGHT MAIL**

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**NOTIFICATION OF HEALTH CLAIMS  
BASED ON AUTHORITATIVE STATEMENTS**

Alliance for Natural Health USA (“ANH”) together with Living Fuel International, Inc., Health Ranger Store, Inc., and CardioMiracle, LLC. (collectively, the parties) hereby submit this Notification for Health Claims Based on Authoritative Statements pursuant to 21 USC 343(r)(3)(C) in accordance with the filing instructions contained in FDA, “Guidance for Industry: Notification of a Health Claim or Nutrient Content Claim Based on an Authoritative Statement of a Scientific Body (June 1998)” (hereinafter, 1998 Guidance). Correspondence to the parties concerning this notice should be addressed to the undersigned lead counsel. Under the provisions of 21 USC 343(r)(3)(C)(ii), the agency must act on this notice no later than 120 days from the date of submission, i.e., on or before December 26, 2025.

As explained below, if the FDA chooses not to approve the claims requested under 21 USC 343(r)(3)(C), it must allow them as a matter of constitutional right under the First Amendment to the United States Constitution because the FDA lacks authority to deny private parties the right to communicate on labels and in labeling the very same information it communicates to the public concerning the nutrient-disease associations at issue here.

Analysis under each of these legal constraints on FDA authority is required without deference to prior agency interpretation following the Supreme Court’s decision in *Loper Bright Enterprises v. Raimondo*, 603 U.S. 369 (2024).

**Summary**

Each of the 125 noticed health claims (Exhibit 1) for use on the labels and in the labeling of the foods specified herein (Exhibit 1) are claims subject to the provisions of 21 USC 343(c)(3)(C) because they are based on authoritative statements of scientific bodies of the United States Government with official responsibility for public health protection or research directly relating to human nutrition. The authoritative statements in Exhibit 1 have

been made and published by the National Institutes for Health (NIH) and the Centers for Disease Control and Prevention (CDC). The relevant, published science relied upon by these agencies in support of the authorities' respective publications of these authoritative statements is included in the references (URLs) to the agency publications containing the authoritative statements from which the respective health claims are derived (Exhibit 2).

In its 1998 Guidance, FDA interpreted 21 USC 343(r)(3)(C) at odds with the plain meaning of the statute's terms, the legislative history underlying that section of the code, and the canons of statutory construction. In the Guidance, FDA required health claims based on authoritative statements to be subjected to the requirements of 21 USC 343(r)(3)(B)(i) (hereinafter, Significant Scientific Agreement standard or SSA) when Congress in Section 343(r)(3)(C) plainly intended claims based on authoritative statements to be exempt from the SSA requirement. The agency's interpretation contradicts the statute which exempts health claims based on authoritative statements from SSA review in advance of market entry and permits continuous use of the claim in the market until such time, if ever, when the Secretary promulgates a rule following notice and comment rulemaking that modifies or revokes the claim or a federal court in an enforcement action acts against the claim. *Contrast* 21 USC 343(r)(3)(C) ("a claim of the type described in subparagraph (1)(B) which is not authorized by the Secretary in a regulation promulgated in accordance with clause (B) **shall be authorized and may be made with respect to a food** if—") *with* 21 USC 343(r)(3)(D) ("A claim submitted under the requirements of clause (C) may be made **until—**") (Emphasis added).

The 1998 Guidance also contradicts the legislative history on point, which confirms that 21 USC(r)(3)(C) was meant to be an alternative to, not a subset of, SSA statutory review. See H.R. Rep. No. 105-399, 105<sup>th</sup> Cong., 1<sup>st</sup> Sess. (1997); S. Rep. No. 105-43, 105<sup>th</sup> Cong., 1<sup>st</sup> Sess. (1997).

Moreover, FDA demands that conditions precedent beyond those listed in the statute be satisfied before a health claim filed under subpart (C) can be authorized, yet neither the statute nor the legislative history gives FDA authority to impose those additional conditions. Under *Loper Bright Enterprises v. Raimondo*, 603 U.S. 369, 144 S.Ct. 2244 (2024), the *ultra vires* doctrine, and the canons of statutory construction, FDA has no statutory authority to require conditions be satisfied beyond those specified in the statute. See, e.g., *United States v. Great Northern Ry.*, 287 U.S. 144, 154 (1932); Unif. Statute & Rule Construction Act § 19 (1995) ("*Primacy of Text*. The text of a statute or rule is the primary, essential source of its meaning"); Justinian's Digest 32.69 (*A verbis legis non est recedendum*) ("Do not depart from the words of the law").

For the reasons explained in this submission, the parties ask FDA to adhere to the plain and intended meaning of the statute in accordance with the command of *Loper Bright Enterprises*, the *ultra vires* doctrine, and the canons of statutory construction in assessing this notification and to avoid application of the 1998 Guidance requirements that exceed and contradict the statute. In the context of noticed claims pursuant to 21 USC

343(r)(3)(C), FDA lacks the authority to require SSA compliance before authorizing the claims for entry into the market. *Contrast* 21 USC 343(r)(3)(C) (“a claim of the type described in subparagraph (1)(B) which is not authorized by the Secretary in a regulation promulgated in accordance with clause (B) shall be authorized and may be made with respect to a food if—”) *with* 21 USC 343(r)(3)(D) (“A claim submitted under the requirements of clause (C) may be made until—”). FDA also lacks the authority to demand satisfaction of conditions beyond those required by the statute because Congress did not delegate to FDA authority so to do. See *Loper Bright Enterprises* overturning *Chevron U.S.A., Inc. v. Natural Resources Defense Council, Inc.*, 468 U.S. 837 (1984).

In the advent of *Loper Bright Enterprises*, FDA is no longer entitled to judicial deference in favor of agency interpretations that fail to track the plain and intended meaning of statutory language or that impose requirements beyond those required by the statute. Instead, in reviewing this notification, FDA must adhere to the plain and intended meaning of the statute and abide by the applicable canons of statutory construction. *Loper Bright Enterprises*, 144 S.Ct. at 2268 (“It . . . makes no sense to speak of a ‘permissible’ interpretation that is not the one the court, after applying all relevant interpretive tools, concludes is best”).

In this submission, the parties satisfy the statutory requirements for market entry of the health claims noticed herein, as prescribed by 21 USC 343(r)(3)(C). Accordingly, the agency must authorize all of the health claims specified in Exhibit 1 to enter the market on the labels and in the labeling of the corresponding dietary supplements and foods identified.

By taking the requested action, FDA will enable consumers at the point of sale to make food purchasing decisions based on label claims concerning the effect of nutrients at levels in the dietary supplements and foods on reduction in the risk of disease. Consumers who make dietary supplement and food choices based on that information may reduce disease occurrence, extend healthy lifespans, lower burdens on health care resources, and expand individual control over their biological destinies. These ends are in ultimate fulfillment of purposes underlying the First Amendment. See, e.g., *Virginia State Bd. of Pharmacy v. Virginia Citizens Consumer Council, Inc.*, 425 U.S. 748, 765 (1976) (“So long as we preserve a predominantly free enterprise economy, the allocation of our resources in large measure will be made through numerous private economic decisions. It is a matter of public interest that those decisions, in the aggregate, be intelligent and well informed. To this end the free flow of information is indispensable.”).

There is an enormous pent-up demand among health-conscious consumers for trusted, authoritative scientific information about nutrients and other natural substances that have been scientifically demonstrated to reduce the risk of disease. Were it not for barriers to market entry erected previously by FDA, consumers would presently be equipped at the point of sale with authoritative information about nutrient-disease risk reduction. Such information, published by scientific bodies of the United States federal

government, would be widely known, and would help U.S. consumers make health enhancing choices in the food market, with a reasonable expectation that such choices would result in a reduction in the incidence of disease. Those barriers, inefficiencies, and acts of suppression were the subject of criticism of this agency in the legislative history underlying 21 USC 343(r)(3)(C) and gave rise to the authoritative statement notice exception to the SSA requirement.

Survey data confirms that the label and labeling of foods and dietary supplements is the primary source for consumers in making decisions about which foods to buy. See, e.g., Muhammad Zeeshan Zafar, et. al., “The Impact of Interpretive Packaged Food Labels on Consumer Purchase Intention: The Comparative Analysis of Efficacy and Inefficiency of Food Labels,” *Int. J. Environ Res. Public Health*, 2022 Nov; 19 (22): 15098 (“The primary source of communication between consumers and organizations is food labeling, which often influences consumers’ purchase decisions,” citing M. J. Moreira, et. al., “Evaluation of food labeling usefulness for consumers,” *Int. J. Consum. Stud.* 2019; 43: 327-334; J. L. Pomeranz, et. al., “Mandating front-of-package food labels in the US – What are the First Amendment obstacles?” *Food Policy*, 2019: 85: 101722. Consequently, there is an urgent need for release of the health claims sought here so consumers may make better informed choices conducive to better health outcomes, taking into account statements heretofore made elsewhere by the government concerning foods and dietary ingredients but never allowed into the market itself by speech barriers erected by this agency.

Moreover, grant of this petition will be in substantial fulfillment of the Make America Healthy Again (MAHA) agenda, supported by a Presidential Executive Order issued on February 13, 2025, namely “Establishing the President’s Make America Health Again Commission”. There is a general consensus in the scientific community that dietary choices affect the risk of disease and longevity as much as, if not more than, any other environmental choice a person can make (Willett WC, Stampfer MJ. Current evidence on healthy eating. *Ann. Rev. Publ. Health* 2013; 34:77–95).

To achieve the goal of reversing the chronic disease epidemic in the United States, consumers must be armed with information at the point of sale in food and dietary supplement markets to exercise informed choice in favor of better health outcomes. Conversely, maintenance of the regime of prior restraint now regnant at FDA will postpone indefinitely, if not prevent altogether, complete achievement of the Make America Healthy Again (MAHA) agenda.

This petition seeks approval of 125 health claims, which if allowed will enable a broad diffusion of essential health information to reach consumers as never before in American history. That extraordinary infusion of health information is likely to have the most profound effect on the exercise of healthy choice food and dietary supplement options by consumers, redounding not only to individual benefit in lessened incidence in disease and greater longevity but to the overall benefit of the nation as reduced

dependency on drugs, hospitalization, and health care will reduce demand on public resources and better position the nation to achieve MAHA health goals.

FDA's denial of the parties' use on labels and in labeling of the very information the government publishes violates the parties' First Amendment rights. The speech burden is content-based (affecting all nutrient-disease relationship claims that arise in publications of scientific bodies of the United States Government with official responsibility for public health protection or research directly relating to human nutrition) and is speaker-based (affecting all non-government speakers who are regulatees of FDA). As explained below, as a content-based and speaker-based ban on the parties' free speech, the agency's burden on the communication of health claims based on authoritative statements is presumptively unconstitutional under the First Amendment. The very fact that the government itself has published the information to the public concerning the nutrient-disease association belies any contention by this agency that the information is inherently misleading and suppressible at FDA's whim or caprice or that somehow consumers are either too ignorant or too gullible to comprehend the information. In the end, the First Amendment is more than a prohibition against government enactment of laws restricting protected speech, it is a guarantee of individual sovereignty, entrusting to each American citizen, not government, the power to decide what is in his or her own best interests. As the Supreme Court reasoned in *44 Liquormart, Inc. v. Rhode Island*, 517 U.S. 484, 497 (1996) (quoting *Virginia Bd. of Pharmacy v. Virginia Citizens Consumer Council, Inc.*, 423 U.S. 748, 765 (1976):

There is, of course, an alternative to this highly paternalistic approach. That alternative is to assume that this information is not in itself harmful, that people will perceive their own best interests if only they are well enough informed, and that the best means to that end is to open the channels of communication rather than to close them. If they are truly open, nothing prevents the 'professional' pharmacist from marketing his own assertedly superior product, and contrasting it with that of the low-cost, high-volume prescription drug retailer. But the choice among these alternative approaches is not ours to make or the Virginia General Assembly's. It is precisely this kind of choice, between the dangers of suppressing information, and the dangers of its misuse if it is freely available, that the First Amendment makes for us.

Based on the statutory and constitutional reasons explained in detail below and the notification supplied herein, the parties ask the FDA to act as soon as possible to authorize each of the 125 health claims sought herein to enter the market on food labels and in food labeling.

### **The Parties**

Alliance for Natural Health USA is a 501(c)(4) non-profit organization that works nationally to both promote sustainable and regenerative health care and protect individual freedom

of choice through proactive policy advocacy and public education. ANH protects access to healthcare by lobbying Congress and state legislatures; acting as a government watchdog; filing comments in rulemakings; educating the public, press, and decision-makers about threats to consumer access to healthcare options, and initiating suits to ensure access.

Living Fuel International, Inc., founded in 2001 and headquartered in Tampa, Florida, is a health and wellness company specializing in nutrient-dense, plant-based meal replacement products designed to support optimal human performance and longevity. Its flagship offerings are formulated with over 90 essential nutrients—including vitamins, minerals, antioxidants, other botanicals, enzymes, and probiotics—to provide comprehensive nutritional support in a single serving. Committed to evidence-based formulations and high-quality, non-GMO ingredients, Living Fuel positions itself as a leader in functional nutrition, aiming to deliver measurable health benefits through its scientifically crafted superfood products. Claims for which Living Fuel International, Inc., seeks use on the labels and in the labeling of its products are identified in Exhibit 3.

The Health Ranger Store, Inc. established in 2012 by Mike Adams, is a U.S.-based online retailer specializing in organic, non-GMO, and lab-verified health products, including supplements, superfoods, and personal care items. All products undergo rigorous testing at CWC Labs, an ISO-accredited analytical laboratory, to ensure purity and potency, with certifications such as USDA Organic and Non-GMO Project Verified. Committed to transparency and sustainability, the company aims to provide consumers with clean, effective, and ethically sourced health solutions. Claims for which The Health Ranger Store, Inc. seeks use on the labels and in the labeling of its products are identified in Exhibit 3.

Cardio Miracle, LLC is a Utah-based health supplement company founded in 2013 specializing in advanced nitric oxide and cardiovascular support formulations. Its flagship product combines key nutrients such as L-arginine, L-citrulline, vitamins D and K, and antioxidants to support endothelial function, circulation, and overall cardiovascular health. As a petitioner for health claims at the FDA, Cardio Miracle is committed to grounding its applications in emerging scientific evidence and advancing public access to nutraceuticals that align with optimal health outcomes. Claims for which Cardio Miracle seeks use on the labels and in the labeling of its products are identified in Exhibit 3.

Accordingly, each of the health claims noticed herein is sponsored by one or more of the commercial petitioners named above, as shown in Exhibit 3.

**The Governing Statute for Health Claims Based on Authoritative Statements of Scientific Bodies of the U.S. Government with Official Responsibility for Public Health Protection or Research Directly Relating to Human Nutrition: 21 USC 343(r)(3)(C)**

The Food and Drug Administration Modernization Act, codified at 21 USC 343(r)(3)(C), establishes an avenue for FDA to authorize market entry of certain health claims on food labels and in food labeling without satisfying the requirements of 21 USC 343(r)(B)<sup>3</sup>.

The statute provides that “notwithstanding the provisions” of 343(r)(B) (i.e., the Significant Scientific Agreement, or SSA, standard), a claim of the type described in subparagraph (1)(B) (i.e., a nutrient-disease relationship claim or health claim) “which is not authorized by the Secretary in a regulation promulgated in accordance with clause (B)” (i.e., under the SSA standard) “**shall be authorized and may be made with respect to a food<sup>4</sup> if**” these conditions are met: (1) the claim is one based on an authoritative statement

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<sup>3</sup> 21 USC 343(r)(3)(B)(i), which establishes the so-called Significant Scientific Agreement standard (SSA), reads in pertinent part:

The Secretary shall promulgate regulations authorizing claims of the type described in subparagraph (1)(B) only if the Secretary determines, based on the totality of publicly available scientific evidence (including evidence from well-designed studies conducted in a manner which is consistent with generally recognized scientific principles and procedures), that there is significant scientific agreement among experts qualified by scientific training and experience to evaluate such claims, that the claim is supported by such evidence.

21 USC 343(r)(1)(B) referenced therein reads in pertinent part:

(1) . . . if it is a food intended for human consumption which is offered for sale and for which a claim is made in the label or labeling of the food which expressly or by implication—

\* \* \* \*

(B) characterizes the relationship of any nutrient which is of the type required by paragraph (q)(1) or (q)(2) to be in the label or labeling of the food to a disease or a health-related condition unless the claim is made in accordance with subparagraph (3) or (5)(D).

A statement of the type required by paragraph (q) that appears as part of the nutrition information required or permitted by such paragraph is not a claim which is subject to this paragraph and a claim subject to clause (A) is not subject to clause (B).

- <sup>4</sup> In “Food Labeling: Use on Dietary Supplements of Health Claims Based on Authoritative Statements (Proposed Rule), 64 FR 3250-3255 (Jan. 21, 1999), [https://www.govinfo.gov/content/pkg/FR-1999-01-21/html/99-1365.htm#:~:text=Section%20304%20of%20FDAMA%20permits,nutrient%20levels%20identified%20in%20Sec.](https://www.govinfo.gov/content/pkg/FR-1999-01-21/html/99-1365.htm#:~:text=Section%20304%20of%20FDAMA%20permits,nutrient%20levels%20identified%20in%20Sec.,), the FDA proposed a rule that dietary supplements, a subset of foods within the FDCA, bear health claims based on authoritative statements, thus harmonizing dietary supplement with general “food” regulation consistent with the contextual meaning of the FDCA, which defines dietary supplements as a subset of foods. See 21 USC 321 (ff) (“Except for purposes of paragraph (g) and Section 350f of this title, *a dietary supplement shall be deemed a food* within the meaning of this chapter”) (emphasis added). FDA never rescinded that proposed rule. See also “Guidance for Industry: Notification of Health Claim and Nutrient Content Claim Based on Authoritative Statement of a Scientific Body” (June 1988), <https://www.fda.gov/regulatory-information/search-fda-guidance-documents/guidance-industry->

of a scientific body of the U.S. government with official responsibility for public health protection or research directly relating to human nutrition, 21 USC 343(r)(C)(i), and (2) the person submitting the claim supplies the Secretary with (a) information to show via a concise description that the statement is one from an aforementioned scientific body of the U.S. Government and not an employee of that body acting in his individual capacity; (b) the exact wording of the claim; (c) a copy of the authoritative statement; and (d) a balanced representation of the scientific literature relating to the relationship between the nutrient and a disease or health-related condition to which the claim refers. 21 USC 343(r)(C)(ii). Additionally, the claim must be (d) one that enables consumers to understand the relative significance of the information within the context of a total daily diet.

For each claim sought, the statutorily required information is supplied hereinbelow.

Congress defined an “authoritative statement” as one “published” by a “scientific body of the United States Government with official responsibility for public health protection or research directly relating to human nutrition.” 21 USC 343(r)(3)(C)(i). The statute gives as examples the National Institutes of Health (NIH), the Centers for Disease Control and Prevention (CDC), the National Academy of Sciences (NAS) or any of its subdivisions. The legislative history for the Act supplies additional examples, including: the National Cancer Institute and the National Heart, Lung, and Blood Institute. The FDA added to these the Surgeon General within the Department of Health and Human Services; the Food and Nutrition Service (FNS); the Food Safety and Inspection Service (FSIS); and the Agricultural Research Service within the Department of Agriculture (ARS).

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[notification-health-claim-or-nutrient-content-claim-based-authoritative-statement#:~:text=Finally%2C%20FDA%20believes%20that%20there.r\(5\)\(D\)](#) (explaining that authoritative statements would be allowed on the labels and in the labeling of dietary supplements). The proposed rule and aforementioned reference in the Guidance were the operative at the agency (and used in the assessment of authoritative statement petitions for dietary supplements) until 2024. But in a March 28, 2024 guidance (and without resort to notice and comment rulemaking to reverse the proposed rule of January 21, 1999), FDA did a *volte face*, stating it would not allow health claims based on authoritative statements to be made for dietary supplements, only for conventional foods. See “Label Claims for Conventional Foods and Dietary Supplements” (March 28, 2024), <https://www.fda.gov/food/nutrition-food-labeling-and-critical-foods/label-claims-conventional-foods-and-dietary-supplements#:~:text=FDAMA%20does%20not%20include%20dietary.dietary%20supplements%20at%20his%20time>. Because by FDA’s own admission a “guidance” has no legally binding effect, the announcement does not preclude this submission or negate the prior proposed rule. Moreover, given the repeated reference to foods within the statutory definition of a dietary supplement in 21 USC 321(ff), the agency lacks statutory authority to construe the term “food” to exclude dietary supplements (and the dietary ingredients subsumed within that definition); that interpretation would be suboptimal and contrary to contextual meaning, thus violating *Loper-Bright Enterprises*. In the absence of statutory language and of clearly expressed congressional intention, FDA has no legal basis for excluding dietary supplements from authoritative statement claims. To prohibit dietary supplements from having access to such claims would be an act of content-based and speaker-based discrimination in violation of the First Amendment. Moreover, it would violate a major canon of statutory construction, which canon requires that if a statute is susceptible to two interpretations, one of which would render it unconstitutional and the other valid, the interpretation that upholds the statute’s constitutionality must be adopted. See *Ashwander v. Tennessee Valley Authority*, 297 U.S. 288 (1936).

Congress additionally required that the authoritative statement (e) be “currently in effect.” 21 USC 343 (r)(3)(C)(i).

In 21 USC 343(r)(3)(C), Congress required the Secretary--“notwithstanding the provisions” of 343(r)(B) (i.e., the Significant Scientific Agreement, or SSA, standard)--to authorize health claims if based on authoritative statements of scientific bodies of the United States Government with official responsibility for public health protection or research directly relating to human nutrition. In 21 USC 343(r)(3)(D), Congress restricted the Secretary’s power to limit this class of health claims to the post-authorization context following notice and comment rulemaking as to the claim and via regulation promulgated, or by district court order in an enforcement proceeding. In 21 USC 343(r)(3)(D), the statute reads:

- (D) A claim submitted under the requirements of clause (C) **may be made until—**
  - (i) such time as the Secretary issues a regulation under the standard in clause (B)(i)—
    - (I) prohibiting or modifying the claim and the regulation has become effective, or
    - (II) finding that the requirements of clause (C) have not been met, including finding that the petitioner has not submitted all the information required by such clause; or
  - (ii) a district court of the United States in an enforcement proceeding under subchapter III has determined that the requirements of clause (C) have not been met.

(Emphasis added).

In convoluted logic in its 1998 Guidance, the agency went beyond its statutory remit and read into subpart (C) for authoritative statement health claim authorization an SSA review requirement, despite the fact that Congress excluded that requirement from subpart (C) and limited it to the post health claim authorization context in subpart (D)—applicable therein only following agency rulemaking or a district Court’s enforcement order. That power grab served the end of censorship, thus also construing the statute to effect a First Amendment violation.

In its 1998 Guidance FDA thus demanded what Congress disallowed; SSA review for health claim submissions based on authoritative government statements, effectively amending the statute by reinserting the very SSA review requirement into subpart (C) that Congress expressly excluded. That reinterpretation, to the extent it could ever pass muster under *Chevron*, plainly fails muster under *Loper Bright Enterprises* and the applicable canons of statutory construction. The agency interpretation not only contradicts the

express exemption from SSA afforded authoritative statements in 21 USC 343 (r)(3)(C)(i), it also contradicts the intended meaning of the subsection as stated in the legislative history.

### **The Legislative History for 21 USC 343(r)(3)(C) Does Not Allow FDA to Impose the SSA Requirement on Health Claim Notices Based on Authoritative Statements**

The legislative history concerning 21 USC 343(r)(3)(C) is contained in U.S. House Report 105-399 (Conf. Report) and U.S. Senate Report 105-43. H.R. Rep. No. 105-399, 105<sup>th</sup> Cong., 1<sup>st</sup> Sess. (1997); S. Rep. No. 105-43, 105<sup>th</sup> Cong., 1<sup>st</sup> Sess. (1997). In the House Report, the following explanation appears for the amendment to the Food Drug and Cosmetic Act governing health claims based on authoritative statements:

***(Sec. 303) allows a health or nutrient content claim not authorized by the Secretary*** if: (1) a U.S. governmental scientific body with public health protection or research responsibility directly relating to human nutrition or the National Academy of Sciences has published an authoritative statement, currently in effect, about the relationship to which the health claim refers or that identifies the nutrient level to which the nutrient claim refers; (2) a person has notified the Secretary; (3) the claim and food are in compliance with certain requirements; and (4) the claim is stated in a way that is an accurate representation of the authoritative statement and in a way that it enables the public to understand the information and its significance. (Emphasis added).

The House Report thus makes clear that a health claim under 21 USC 343(r)(3)(C) is to be allowed ***without authorization from the Secretary*** if based on publications of other federal governmental scientific bodies with public health protection or research responsibility. There is in this history no statement that FDA is given authority to require SSA review or approval as a condition precedent to authorization of health claims based on authoritative statements. Nor is there any reference to an intention to give FDA authority to impose other requirements beyond those specified in the statute's text.

The Senate Report further elucidates the intended meaning. The Senate Report reads in pertinent part:

9. the legislation simplifies the approval process for indirect food contact substances and ***provides a more reasonable standard for some health claims.***

.... The legislation also provides for health claims for foods, with premarket notification, when the claims are based on authoritative recommendations by an authoritative scientific body of the U.S. Government such as the National Institutes of Health, the Centers for Disease Control and Prevention, or the National Academy of Sciences.

## Title VI—Better Allocation of Resources Setting Priorities

### Health Claims of Food Products

This legislation makes amendments to section 403(r) of the Federal Food, Drug, and Cosmetic Act to authorize truthful, nonmisleading health claims that are based on published authoritative statements of scientific bodies of the U.S. Government with official responsibility for public health protection or research directly relating to human nutrition.

\* \* \* \*

Under existing section 403(r)(3), health claims can be made for food only after FDA issues a regulation authorizing the specific claim. This same preclearance requirement applies to all health claims—from the novel claim, to the claim that would be supported by an authoritative statement of an official public health agency of the Federal Government. ***This procedure is inefficient and fails adequately to benefit from the deliberative processes in which authoritative scientific bodies engage in issuing statements on matters of public health.*** Important Federal public health organizations as part of their official responsibilities, routinely review the scientific evidence pertinent to diet and disease relationships, and publish statements developed through such reviews. ***The Surgeon General and National Academy of Sciences have published authoritative reports on such relationships. The National Cancer Institute has issued pamphlets recommending food choices to reduce the risk of cancer. The National Heart, Lung, and Blood Institute has issued a range of authoritative publications aimed at reaching the risk of hypertension and heart disease in the United States population.***

The failure of the current system to give adequate weight to the statements of such authoritative bodies, coupled with the prohibitive economic burden that permits only the largest food companies and trade organizations to file a health claim petition to gain approval of a new health claim, has deprived the public of the full disease prevention benefits health claims were intended to provide.

***This legislation maintains the rigorous scientific standard health claims must meet under existing law but streamlines the procedure for making health claims when the scientific basis for a claim has been developed by an authoritative scientific body outside FDA. This procedure targets regulatory resources more effectively, and promises to benefit public health substantially more than the current system.***

The history of the folic acid and neural tube defects health claim dramatizes the critical need for this legislation. In 1992, the Centers for Disease Control and Prevention (CDC) issued the following recommendation to women of childbearing age, aimed at reducing the risk of pregnancies affected by neural tube defects:

All women of childbearing age in the United States who are capable of

Becoming pregnant should consume 0.4 mg of folic acid per day for the purpose of reducing their risk of having a pregnancy affected with spina bifida or [other neural tube defects].

Centers for Disease Control, 41 Morbidity and Mortality Weekly Report (September 11, 1992).

The CDC estimated that this recommendation could reduce the number of cases of spina bifida and other neural tube defects in the United States by 50 percent.

Despite the significant scientific agreement among qualified experts concerning the evidence supporting the recommendation, manufacturers of foods containing folic acid were prohibited from making claims about the benefits of folic acid in reducing the risk of neural tube defects until FDA approved the claim through a notice and comment rulemaking procedure.

***Without appropriately accounting for the CDC recommendations, FDA promulgated a rule in January 1993, prohibiting claims concerning the relationship. In the wake of controversy concerning FDA's action, and despite the absence of any change in the scientific evidence, the Agency reversed course, proposing to authorize such claims in October, 1993. Final regulations authorizing the claim were promulgated in March 1996. Undoubtedly, many children suffered from preventable neural tube defects as a result of FDA delay in authorizing health claims based on the 1992 CDC recommendation.***

***The amendments this legislation makes to section 403(r)(3) of the Federal Food Drug and Cosmetic Act would prevent a recurrence of the kind of problem presented by the folic acid/neural tube defect claim. While the legislation makes no change to the existing standards governing the health claim approval process, it establishes an alternative procedure by which health claims supported by an authoritative statement of an appropriate scientific body of the U.S. government are authorized. Such claims could be made after premarket notification to FDA, without the delay that accompanies the rulemaking process.*** The legislation would require manufacturers intending to make such a health claim to submit a premarket notice to FDA concisely describing the claim and the authoritative statement relied upon.

The notice would be submitted at least 120 days before the first introduction of a food bearing the claim into interstate commerce.

***Although the legislation would eliminate the requirement for FDA approval of such claims,*** it would continue to require foods to conform to the “disqualifying nutrient levels” established by FDA under section 403 (r)(3)(A)(ii) and require all health claims to be presented in a truthful, non-misleading manner in conformance with sections 403(a) and 201(n) of the Federal Food Drug and Cosmetic Act. For example, a food bearing a truthful

health claim based on an authoritative statement would need to make a material dietary contribution of the substance to which the claim refers to meet the requirements of sections 403(a) and 201(n). The legislation specifically mandates that a health claim accurately represent the authoritative statement on which it is based, and be presented in a manner enabling the public to comprehend the significance of the claim in the context of a total diet.

The agency retains full authority to take enforcement action against a health claim that mischaracterizes the authoritative statement upon which it is based, or that is otherwise misleading. The 120 day premarket notice requirement would enable FDA to identify misleading claims and take action to prevent their use before products bearing such claims are introduced to the market. In response to notifications filed by dietary supplement manufacturers concerning claims made under section 403(r)(6) of the Act, a provision adopted as part of the Dietary Supplement Health and Education Act of 1994, FDA issues “courtesy letters” promptly alerting manufacturers when claims submitted in their notification present a risk of enforcement action. Such an approach is an efficient and effective means of deterring manufacturers from making violative claims.

Under this legislation, the agency retains the full range of enforcement powers it has possessed historically to remedy misleading claims, including the powers of product seizure, injunction, and criminal penalties. In addition, new section 403(r)(3)(D) assures that FDA retains full authority to regulate health claims based on the statements of authoritative bodies through rulemaking. ***Once FDA regulations governing health claims concerning a particular diet/disease relationship (e.g., calcium and osteoporosis) have become effective, no claim concerning that diet/disease relationship based on the statement of an authoritative scientific body could be made unless it is consistent with the FDA regulation. The legislation specifically provides that FDA may prohibit or modify such health claims through rulemaking. In any such proceeding, the standards and criteria for health claims prescribed in section 403(r)(3) and implementing regulations, including the significant scientific agreement standard, would be fully applicable.***

(Emphasis added).

The House Report makes clear that health claims based on authoritative statements of scientific bodies of the United States with official responsibility for public health protection or research are to be allowed into the market without SSA authorization from the Secretary (and, by delegation, the FDA Commissioner). The Senate Report reinforces that point, explaining that the amended health claim provision was designed to prevent the kind of FDA prohibition and delay attendant to FDA’s decade long failure to authorize CDC’s folic acid/neural tube defect claim on dietary supplement labels. That delay arose first from FDA’s SSA denial of the claim and thereafter from FDA delay in authorizing the claim, during which Congress notes preventable neural tube defect births occurred (“The amendments this legislation makes to section 403(r)(3) of the Federal Food

Drug and Cosmetic Act would prevent a recurrence of the kind of problem presented by the folic acid/neural tube defect claim”). **The creation of 21 USC(r)(3)(C) thus “eliminates the requirement for FDA approval of” health claims when based on authoritative statements of scientific bodies of the United States with official responsibility for public health protection or research.** It instead establishes an “alternative procedure” whereby accurate representations of authoritative statements published by other U.S. Government scientific bodies are authorized without need for satisfying FDA’s SSA requirement: **“[I]t establishes an alternative procedure by which health claims supported by an authoritative statement of an appropriate scientific body of the U.S. government are authorized. Such claims could be made after premarket notification to FDA, without the delay that accompanies the rulemaking process.”**

**FDA’s “Guidance for Industry: Notification of a Health Claim or Nutrient Content Claim Based on an Authoritative Statement of a Scientific Body (June 1998)” Misinterprets and Violates 21 USC USC 343(r)(3)(C)**

In its 1998 Guidance<sup>5</sup>, FDA prescribed rules to guide the regulated class in filing notices of intended use of health claims based on authoritative statements of federal scientific bodies. The rules exceed the requirements of 21 USC 343(r)(3)(C) and defeat the purpose of the statute by commanding that SSA be satisfied as a condition precedent to health claim allowance.

Through the 1998 Guidance, FDA issues these specific instructions for the content of notices to the agency based on authoritative statements:

- (1) FDA requires that the authoritative statement be published by NAS, NIH, CDC, the Surgeon General, FNS, FSIS, or ARS.
- (2) FDA requires that the statement be “currently in effect.”

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<sup>5</sup> In its 1998 Guidance, FDA deemed the following to be scientific bodies of the United States with official responsibility for public health protection or research directly relate to human nutrition: the National Academy of Sciences (NAS) or any of its subdivisions; the National Institutes of Health (NIH), the Centers for Disease Control and Prevention (CDC), the Surgeon General within the Department of Health and Human Services; the Food and Nutrition Service (FNS); the Food Safety and Inspection Service (FSIS); and the Agricultural Research Service within the Department of Agriculture (ARS). Although FDAMA “does not provide for health claims based on authoritative statements for dietary supplements,” FDA nevertheless “intends to propose that health claims based on authoritative statements be permitted for dietary supplements.”

- (3) FDA requires that the statement “not include a statement of an employee of the scientific body made in the individual capacity of the employee.”
- (4) FDA requires that the statement “reflect a consensus within the identified scientific body if published by a subdivision of one of the Federal scientific bodies.”**
- (5) FDA requires that the statement “be based on a deliberative review by the scientific body of the scientific evidence.”**
- (6) FDA requires that the health claim based on the authoritative statement satisfy the SSA standard in 21 USC 343(r)(3)(B)(i).**
- (7) FDA requires that the health claim not be based on findings FDA characterizes as preliminary results.**
- (8) FDA requires that the health claim not be based on statements that FDA considers inconclusive research.**
- (9) FDA requires that the health claim not be based on statements intended to guide future research.**
- (10) FDA requires the notification to include the “exact words used in the claim.”
- (11) FDA requires the notification to include “a concise description of the basis upon which such person relied for determining that the requirements” for an authoritative statement “have been satisfied.”
- (12) FDA requires “a copy of the statement referred to . . . upon which such person relied in making the claim.”
- (13) FDA requires what it considers “a balanced representation of the scientific literature relating to the relationship between a nutrient and a disease or health-related condition to which the claim refers.”
- (14) FDA requires that the balanced representation of the scientific literature include a “bibliography of the scientific literature on the topic of the claim” and a “brief, balanced account or analysis of how this literature either supports or fails to support the authoritative statement.”
- (15) FDA requires that the health claim be “stated in a manner so that the claim is an accurate representation of the authoritative statement referred to . . . so that the claim

enables the public to comprehend the information provided in the claim and to understand the relative significance of such information in the context of a total daily diet.”

(16)FDA requires that the food for which a claim is made not exceed the disqualifying amounts of nutrients that may increase the risk of a disease or health-related condition in the general population.

(17)FDA requires that a claim based on an authoritative statement not be false or misleading in any particular.

Each of the 1998 Guidance requirements in bold in (4) – (9) above are not present in the statute and contradict its plain and intended meaning.

In this submission, the parties submit evidence of compliance with the requirements of 21 USC 343(r)(3)(C) and not with those gratuitously demanded by FDA that contradict the requirements of the statute and exceed its requirements. Consequently, the parties provide all information called for in (1) – (3) and (10) – (17) above. In the aftermath of *Loper Bright Enterprises*, FDA’s demand for information called for in (4) – (9) above is not a permissible construction of the statute.

### **The Impact of Loper Bright Enterprises on FDA’s 1998 Guidance Requiring SSA Preclearance and Satisfaction of Conditions Beyond Those Specified in the Statute**

Under *Loper Bright Enterprises v. Raimondo*, 603 U.S. 369, 144 S.Ct. 2244 (2024), FDA is denied the interpretive latitude it had under *Chevron USA v. Natural Res. Def. Council*, 467 U.S. 837 (1984). FDA imposition of the requirements listed in (4) – (9) above exceed those specified in the statute. Its insistence on SSA preclearance directly contradicts the statute. In those respects FDA contradicts the plain and intended meaning of the statute. Consequently, FDA must in this proceeding revoke those requirements and reinterpret the statute to comport with its plain and intended meaning. Doing so requires that it limit its requirements to those listed in (1) – (3) above and to (10) – (17) above and that it drop as a condition precedent to health claim authorization under 21 USC 343(r)(3)(C) its demand for satisfaction of SSA, thereby directly contradicting the statutory language.

In the *Loper Bright Enterprises*, the Supreme Court overruled *Chevron USA v. Natural Res. Def. Council*, 467 U.S. 837 (1984), and with it the doctrine of judicial deference to administrative agency interpretation of statutory law. Under *Chevron*,

[C]ourts used a two-step framework to interpret statutes administered by federal agencies. After determining that a case satisfies various proconditions . . . for *Chevron* to apply, a reviewing court must first assess “whether Congress has

directly spoken to the precise question at issue.” *Id.* At 842. If, and only if, congressional intent is “clear,” that is the end of the inquiry. *Ibid.* But if the court determines that “the statute is silent or ambiguous with respect to the specific issue” at hand, the court must, at *Chevron’s* second step, defer to the agency interpretation if it “is based on a permissible construction of the statute.” *Id.* At 843.

144 S.Ct. at 2254.

In overruling *Chevron*, the Supreme Court explained that under the Administrative Procedure Act, 5 USC 706, “agency interpretations of statutes—like agency interpretations of the Constitution—are *not* entitled to deference.” Rather, it “remains the responsibility of the court to decide whether the law means what the agency says.” 144 S.Ct. at 2261. The Court now requires “the best reading” of a statute, not merely an agency’s plausible reading, reasoning: “It . . . makes no sense to speak of a ‘permissible’ interpretation,” *Id.* at 2268, rather, “[i]n the business of statutory interpretation, if it is not the best, it is not permissible.” *Id.* Moreover, it is no longer enough for an agency to proclaim itself expert in an area of regulation as a justification for usurping the role of the Courts in determining the meaning of the law. The “tool kit” the Courts use where the statutory language is silent or ambiguous on a point is one of discerning plain meaning by reference to context guided by the canons of statutory construction. Ambiguities are to be resolved consistent with intended meaning, discernible from the statute as a whole and from the legislative intent expressed in the House and Senate Committee reports, and commentary on the floor of Congress by bill sponsors.

**Any Action by FDA to Compel the Health Claims Here in Issue to Undergo SSA Review, or to Deny Them, Necessarily Creates an As-Applied First Amendment Challenge Against FDA’s Content-Based and Speaker-Based Order**

Under the 1998 Guidance, FDA states its intention to review every proposed health claim noticed pursuant to 21 USC 343(r)(3)(C) under the SSA standard in 21 USC 343(r)(3)(B)(i). In this instance health claims are based on authoritative statements of scientific bodies of the U.S. government with official responsibility for public health protection or research directly relating to human nutrition. In other words, the Government itself is the source of the information represented in the health claims. Those authoritative statements this Government makes directly to the public. The health claims directly represent the very statements made by the Government and do so in context with the precise substances at the precise dose levels identified by the Government as having disease risk reduction effects. Consequently, if FDA either burdens or prohibits any of the health claims here in issue it engages in content-based and speaker-based discrimination, inviting an as-applied challenge. Content-based and speaker-based speech burdens and bans are presumptively unconstitutional under the First Amendment. See, e.g., *Sorrell v. IMS Health Inc.*, 564 U.S. 552, 571 (2011) (citing *R.A.V. v. City of St. Paul*, 505 U.S. 377, 382 (1992)). The speech in issue is non-commercial and scientific, indeed substantively the government’s own, entitled to strict scrutiny protection. See generally *Miller v. California*,

413 U.S. 15, 34 (1973) (explaining that the “First Amendment protects works” which have “scientific value”); *Roth v. United States*, 354 U.S. 476, 484 (1957) (quoting letter of Continental Congress citing scientific advancement as a reason for protecting freedom of the press). The mere fact that the scientific speech lifted from government publications and placed on the very products identified in those publications enters commerce when on labels and in labeling does not diminish the intrinsic fact that the substance of the statements is non-commercial and scientific and thus entitled to full First Amendment protection. Even so, if the content were assessed under intermediate scrutiny afforded commercial speech, it would still result in the same outcome, an unconstitutional act of suppression because the means chosen do not effectuate the alleged ends of protecting consumers from deception. Indeed, the speech is substantively the very speech the government itself communicates to the public.

In the first instance, FDA cannot logically or reasonably contend that speech vetted by its sister agencies and presented to the public is either inherently or potentially misleading. In the grand scheme of things, FDA is not the ultimate or penultimate truth cipher among scientific bodies of the U.S. government with official responsibility for public health protection or research directly relating to human nutrition, but is, instead, co-equal with its sisters. At best, FDA must contend that the speech somehow is transmogrified when it leaps from an authoritative statement published by a government agency to the label or labeling of a product containing the very ingredients identified as health enhancing by that agency. That idea, once argued by the Department of Justice to the U.S. Court of Appeals in *Pearson v. Shalala*, stretches logic beyond the breaking point and neuters the First Amendment by causing it to have only situational meaning, positions rejected by our Court of Appeals.

In any event, the speech here in issue concerns a precise category disfavored by this agency, speech concerning the association between nutrients and disease (more particularly, concerning the effect of nutrients on reducing the risk of disease). “Government regulation of speech is content based if a law applies to particular speech because of the topic discussed or the idea or message expressed.” *Reed v. Town of Gilbert, Ariz.*, 576 U.S. 155, 159 (2015). The regulations here in issue are thus content-based. Moreover, because the FDA acts only against regulatees who wish to communicate health claims based on authoritative statements on the label and in the labeling of food products in the market, the regulations are speaker-based. Laws designed or intended to suppress or restrict the expression of specific speakers because of the content of their expression violate the First Amendment. See *Turner Broadcasting System, Inc. v. FCC*, 512 U.S. 622, 658 (1994) (explaining that strict scrutiny applies to regulations reflecting “aversion” to what “disfavored speakers” have to say); *United States v. Playboy Ent. Grp.*, 529 U.S. 803, 812 (2000). As such, FDA’s content and speaker-based restrictions cannot survive constitutional muster unless they satisfy the heightened burden of strict scrutiny, which is the government’s burden to prove.

Under strict scrutiny, FDA must show that its regulations are narrowly tailored to serve a compelling state interest, such that the means directly further the ends and there are no less speech restrictive alternatives to achieve its ends. *Sorrell v. IMS Health Inc.*, 564 U.S. 552, 566 (2011); *Reed v. Town of Gilbert, Ariz.*, 576 U.S. 155, 163 (2015). Here, the FDA's interest is presumably one of ensuring that health claims based on authoritative statements of government agencies are accurate reflections of those statements and apply to the dietary ingredients in issue. Achievement of that interest does not require SSA satisfaction or FDA review of the "sufficiency" of its sister agencies' evidentiary evaluations and considerations. Yet, here, FDA presumes its subjective desires for more evidence than sufficient to establish the claim truthful, justifies claim suppression rather than allowance of the claim into the market. FDA's means are not narrowly tailored because they do not focus on the accuracy of what is republished by the parties, but in insisting that its own standard of review (SSA or, as it has interpreted it, conclusive proof) is satisfied. Yet truth can be conveyed about even scientifically inconclusive claims, as the United States Court of Appeals for the D.C. Circuit explained to this agency in *Pearson v. Shalala*, 164 F.3d 650 (1999), reh'g den., 172 F.3d 72 (1999).

Consequently, an accurate reflection of an authoritative statement of another federal agency can under the terms of the 1998 Guidance be suppressed by FDA from appearing on labels and labeling if FDA concludes subjectively that for one reason or another the evidence acceptable to its sister is unacceptable to it. Indeed, FDA demands not only SSA satisfaction (proof to a near conclusive degree, a literal impossibility in science) but also proof of a consensus within the identified scientific body; proof of a deliberative review by the scientific body of the scientific evidence; proof that the health claim is not based on findings FDA considers preliminary; proof that the health claim is not based on findings FDA considers inconclusive; or proof that the health claim is not based on statements FDA considers intended to guide future research. As the United States Court of Appeals for the D.C. Circuit made clear in *Pearson v. Shalala*, 164 F.3d 650 (1999), reh'g den., 172 F.3d 72 (1999), FDA has a First Amendment duty to avoid suppressing health claims backed by scientific evidence that harbor only a potential to mislead based solely on its view that supportive science is not enough, even if it deems the evidence supporting the claim inconclusive or preliminary. Its proper resort under *Pearson* is to allow the claim to be made and state its reservations as to conclusiveness in a reasonable, succinct, unbiased, claim qualification. It must allow the claim into the market relying on the less speech restrictive alternative of claim qualification, if it is to survive constitutional review.

But even were strict scrutiny not applied, and this content- and speaker-based restriction on scientific speech deemed wholly commercial in nature, the regulations would still fail under the applicable test. Under a commercial speech inquiry, FDA bears the burden of justifying its content-based prior restraints as consistent with the First Amendment (*Thompson v. Western States Medical Center*, 535 U.S. 357, 373 (2002)). To sustain its burden, FDA must show that the regulation directly advances a substantial governmental interest and that the measure is drawn to achieve that interest (see *Sorrell v. IMS Health Inc.*, 564 U.S. 552, 571-572 (2011), citing: *State Univ. of New York v. Fox*, 492

U.S. 469, 480-481 (1989), and *Central Hudson Gas & Elec. Corp. v. Public Serv. Comm'n of N.Y.*, 447 U.S. 557, 566 (1980)). There must be a reasonable “fit between” the means chosen and the ends. FDA is required to show that the harms it recites are real and that the means it has chosen will advance its ends to a material degree (*Edenfield v. Fane*, 507 U.S. 761, 762 (1993), quoting: “A governmental body seeking to sustain a restriction on commercial speech must demonstrate that the harms it recites are real and that its restriction will in fact alleviate them to a material degree”). Here, FDA’s harms are entirely speculative; there is no basis to presume that the authoritative statements of FDA’s sister scientific bodies already published to the public, when published as health claims on the label or in labeling of food, are inherently misleading. Moreover, suppressing that information, appearing as it does in publications of the government itself, is certainly a very indirect way of advancing the FDA’s interest, one whose fit between means and ends are not reasonably calculated to achieve the ends of avoiding misleadingness.

Accordingly, even if FDA presumes its 1998 Guidance valid in all respects, or otherwise insists upon the provisions within it that conflict with the statute or impose requirements not specified in the statute, suppression of the health claims presented here will necessarily violate its enabling act and the First Amendment.

**THE HEALTH CLAIMS NOTICED FOR AGENCY AUTHORIZATION PURSUANT TO 21  
USC 343(r)(3)(C)**

In compliance with 21 USC 343(r)(3)(C), ANH, Living Fuel, Health Ranger Store and Living Fuel hereby submit the following responsive information requisite to FDA authorization of the foregoing health claims based on authoritative statements published by the National Institutes for Health and the Centers for Disease Control and Prevention.

Based on 21 USC 343(r)(3)(C) and relevant FDA regulations (21 CFR 101.70 and 101.14), the 156 health claims presented in Exhibit 1 are presented for FDA authorization based on corresponding, numbered authoritative statements shown in Exhibit 2. The federal scientific body (e.g., NIH, CDC) that issued each authoritative statement has been identified (Exhibit 2), and each statement and corresponding, numbered, proposed nutrient-disease claim explicitly describes the relationship between the nutrient or substance and a disease or health-related condition (21 CFR101.14(a)(1)). Each authoritative statement given in Exhibit 2 was found to be published on the specified federal agency website (shown in Exhibit 2) on the date of submission of this petition.

An internal review by the petitioners of the agency’s publications revealed that as of the date of this submission the relevant government health agencies had not revoked or otherwise modified or delimited any of the foregoing authoritative statements. Additionally, none appear to have been superseded by newer findings (21 CFR 101.14(c)(2)(iv)). We therefore conclude that they are currently in effect.

The authoritative statements are published by and are presented to the public as statements of the NIH or the CDC, U.S. federal scientific bodies with public health protection or research responsibilities directly relating to human nutrition. These are not statements of employees or other representatives of the government scientific bodies made in their individual capacity.

To determine that the requirements for an authoritative statement have been satisfied, the parties hereto conducted detailed searches of the official websites of agencies under the Department of Health and Human Services, and in particular the NIH and CDC. The largest repositories of information pertaining to nutrient-disease relationships were found on the websites of the Office of Dietary Supplements (ODS) (<https://ods.od.nih.gov/factsheets/list-all/>) and the National Center for Complementary and Integrative Health (NCCIH) (<https://www.nccih.nih.gov/>), both being offices of the NIH.

The proposed claims (Exhibit 1) based on corresponding, numbered, authoritative statements (Exhibit 2) have been conscientiously summarized to capture their intended meaning and to ensure they are readily understood by the average U.S. consumer on labels and in labeling. Furthermore, in the case of each authoritative statement, the science referenced by the authority has been reviewed and the dosing reported in Exhibit 3. This same exhibit lists the brand names of dietary supplements relevant to each corporate petitioner that contain dietary ingredients that are within the same dose range referenced in the corresponding, numbered authoritative statement.

All proposed health claims (as shown in the header of Exhibit 1) pertain to ingredients present in conventional (including ‘functional’) foods, medical foods and dietary supplements in amounts that meet the minimum dose ranges specified in Exhibit 2. 21 USC 342(a)(1) ensures that inclusion amounts must not exceed those that may render a food product injurious to health causing it to be considered adulterated.

The numbered, proposed health claims (Exhibit 1) have been worded to provide an accurate representation of the authoritative statement, with reference to the place of publication of the authoritative statement, and, where relevant, qualification to ensure that the public understands the relative significance of the claim within the context of a total daily diet.

The foods for which these claims are made, namely conventional foods, medical foods, and dietary supplements (see Exhibit 1), does not exceed the disqualifying amounts of nutrients that may increase the risk of a disease or a health-related condition in the general population.

**Even if FDA Refuses to Grant FDAMA Claims, It Must Allow the Claims under the First Amendment**

The speech here in issue are claims directly based on authoritative statements communicated by federal government health agencies to the public concerning the very dietary ingredients in the very dose amounts offered by the petitioners. The claims mirror the substantive meaning of the authoritative statements. They are akin to lifting the content from the government publications and placing that content on a label and in labeling. This is essentially a republication of the government’s own speech.

Under the First Amendment, the government is barred from exercising control over private editorial discretion such that it compels speech or denies the right to communicate the speech because of an aversion to the speaker or to the content. The First Amendment prohibits the government from using censorship to “tilt” public debate “in a preferred direction.” *Moodey v. Net Choice LLC*, 603 U.S. 603 U.S. 707 (2024), citing *Sorrell v. IMS Health, Inc.*, 564 U.S. 552, 578-579 (2011). Government may not use prior restraint to deny publication of information the government itself has acquired. See, e.g., *New York Times Co. v. Sullivan*, 403 U.S. 713 (1971). The First Amendment’s prohibition on prior restraints is all the more serious when the federal government presumes to forbid a private party from publishing the very content the government itself has already made public. There could be no more direct example of speaker and content-based censorship, which reaches the court with a strong presumption against its constitutionality.

In this instance, the government is equitably barred from arguing that its own publication of scientific information concerning nutrient-disease risk relationships is either false or misleading. Moreover, it lacks any legal or factual foundation to argue that the information when substantively condensed to a label claim by the petitioners is somehow transmogrified into falsehood. Rather, once released into the public domain by the agencies themselves the information is fair game for republication whether by the press or by the seller of a product containing the very dietary ingredient concerned in the very quantitative amounts tied to a reduction in disease risk.

For those reasons, FDA lacks constitutional authority to prevent the claims sought here. While it may not approve them, it cannot disallow them, and must make clear that the petitioners who seek to use them are free to do so by command of the First Amendment.

### **Executive Orders and Executive Memoranda Compel Allowance of the Claims**

Action on this petition is warranted in fulfillment of the President’s Memorandum, “Directing Repeal of Unlawful Regulations” (April 9, 2025); the President’s Executive Order, “Unleashing Prosperity through Deregulation” (January 31, 2025); and the President’s Executive Order, “Establishing the President’s Make America Healthy Again Commission” (February 13, 2025).

Under the Memorandum of April 9, the President called on the heads of the executive departments and agencies to determine the lawfulness of the agency’s regulations under recent Supreme Court precedent, including *Loper Bright Enterprises* and

*West Virginia v. EPA*, 597 U.S. 657 (2022), among others. Those cases relied upon here compel FDA to revisit the regulations here in issue to ensure that its interpretation of its enabling statute and the limitations on its power under the First Amendment are aligned so that health information, such as that sought to reach the public at the point of sale here, is not suppressed.

Under the Executive Order of January 31, the regulatory prior restraints at issue here must be brought down to ensure that health information published by the government is transparently communicated to the public at the point of sale, enabling the public to make better informed food and dietary supplement choices, redounding to the health benefit of consumers and a reduction in the incidence of chronic disease and dependency on public resources for health care.

Under the Executive Order of February 13, the President established the MAHA Commission with one particular objective being the establishment of “transparency,” allowing vital health information to reach the public, including the aim of ensuring that “all federally funded health research should empower Americans through transparency and open-source data, and should avoid or eliminate conflicts of interest that skew outcomes and perpetuate distrust.”

This petition advances that presidential memorandum and those presidential orders by ending FDA prior restraint that deprives the public at the point of sale of truthful, non-misleading nutrient-disease risk reduction information indispensable to better health outcomes.

### **Conclusion**

For the foregoing reasons, ANH and Living Fuel International, Inc., Health Ranger Store, Inc., and CardioMiracle, LLC., by counsel, respectfully request that FDA authorize each of 125 nutrient-disease health claims presented herein or allow each claim to be made on the respective label and in the respective labeling of the foods or dietary supplements identified herein by the company sponsors listed herein.

Respectfully submitted,

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Dated: September 1, 2025

## **EXHIBIT 1**

Numbered, proposed nutrient/disease claims

Health Claim No	Substance(s)	Proposed Claims (applicable to adults, unless otherwise stated). Relevant foods: conventional/functional foods, dietary supplements, and medical foods. For minimum dosages see Exhibit 2.
1	Vitamin A and Carotenoids	Vitamin A reduces the risk of respiratory diseases/pneumonia and infections/measles/diarrhea. Vitamin A may reduce the risk of premature death.
2	Vitamin A and Carotenoids	Natural vitamin A and /or carotenoids in food form may reduce the risk of certain cancers.
3	Vitamin A and Carotenoids	Dietary supplements containing carotenoids, including beta-carotene, or lutein and zeaxanthin, combined with vitamins C and E, zinc and copper, may reduce the rate of vision loss in people with age-related macular degeneration (AMD).
4	Vitamin A and Carotenoids	Vitamin A may reduce the risk of infections, such as measles and diarrhea.
5	Boron	Boron may reduce inflammation in the body.
6	Boron	Boron may reduce the risk of osteoarthritis.
7	Boron	Boron may reduce the risk of certain cancers.
8	Boron	Boron may increase bone strength and reduce the risk of osteoporosis.
9	Vitamin B1/Thiamin	Thiamin may reduce the risk of memory loss, muscle weakness and heart problems.
10	Vitamin B2/Riboflavin	Riboflavin may reduce the risk of migraine headaches
11	Vitamin B2/Riboflavin	Riboflavin may reduce the risk of skin disorders, anemia, cataracts, sores at the corners of the mouth, sore throat, liver disorders, and reproductive and nervous system disorders.
12	Niacin	Nicotinic acid (at doses of 1600 mg or more daily) may lower LDL ('bad') cholesterol and triglycerides, and raise HDL ('good') cholesterol.
13	Vitamin B12/Cobalamin	Vitamin B12, vitamin B6 and folate reduce the risk of heart attack or stroke in people with sub-normal blood levels of homocysteine.
14	Vitamin B12/Cobalamin	Vitamin B12 reduces the risk of megaloblastic anemia.
15	Vitamin B12/Cobalamin	Vitamin B12 reduces the risk of pernicious anemia.
16	Vitamin B12/Cobalamin	Vitamin B12 reduces the risk of macrocytic anemia.

17	Vitamin B12/Cobalamin	Vitamin B12 reduces the risk of certain neurological problems.
18	Vitamin B12/Cobalamin	Vitamin B12 reduces the risk of peripheral neuropathy caused by vitamin B12 deficiency.
19	Chromium	Chromium may reduce the risk of impaired glucose tolerance.
20	Chromium	Chromium may reduce the risk of type 2 diabetes.
21	Chromium	Chromium may reduce the risk of insulin resistance.
22	Chromium	Chromium may reduce the risk of metabolic syndrome.
23	Vitamin B6	Vitamin B6 helps reduce the risk of abnormal brain development in the fetuses of pregnant women
24	Vitamin B6	Folate (500-5000 mcg DFE/d), vitamin B12 (1000-5000 mcg DFE/d) and vitamin B6 (20-25 mg DFE/d) may lower the risk of cardiovascular disease and Alzheimer's disease.
25	Vitamin B6	Vitamin B6 supplementation reduces the risk of vitamin B6 deficiency, which may include the following symptoms: anemia, itchy rashes, scaly skin on the lips, cracks at the corners of the mouth, swollen tongue, depression, confusion, or a weak immune system. In infants, vitamin B6 deficiency may include irritability, extreme sensitivity in hearing, or seizures.
26	Vitamin B9/Folate	Food forms of folate may decrease the risk of several forms of cancer. Folic acid (pteroylmonoglutamic acid) taken at the recommended amounts (400 mcg DFE/day for children of 14 years and older and adults, except pregnant women, who should take 600 mcg DFE/day and lactating women, who should take 500 mcg DFE/day) may help reduce the risk of certain forms of cancer.
27	Vitamin B9/Folate	Folate supplements in the methylated form (5-methyltetrahydrofolate, or 5-MTHF) may reduce the risk of depression.
28	Vitamin B9/Folate	Vitamin B12 and folate supplementation may reduce the risk of megaloblastic anemia.
29	Vitamin B9/Folate	Adequate folate intake (600 mcg DFE/day) before conception and in the earliest days and weeks of pregnancy may reduce the risk of abnormal fetal brain and spine development.
30	Calcium	Calcium supplements may reduce the risk of preeclampsia in pregnant women who consume too little calcium in their normal diet.

31	Calcium	For those with low calcium status, increasing calcium intake may reduce the risk of metabolic syndrome.
32	Calcium	Normalizing calcium status may reduce the risk of osteoporosis and osteomalacia.
33	Choline	Choline may reduce the risk of non-alcoholic fatty liver disease (NAFLD).
34	Copper	If your copper status is low, copper supplementation may reduce the risk of skin discoloration patches (pityriasis alba), high blood cholesterol, and loss of balance and coordination.
35	Vitamin C	Vitamin C helps the body make collagen needed for wound healing.
36	Vitamin C	Vitamin C helps support the proper function of the immune system needed to protect the body from disease.
37	Vitamin C	Vitamin C, in combination with vitamin E, lutein, zeaxanthin, zinc, copper, may help reduce the risk of age-related macular degeneration (AMD).
38	Vitamin D	Vitamin D and Calcium may reduce the risk of osteoporosis.
39	Vitamin D	Vitamin D supplementation may reduce the risk of pathogenic bacteria and viruses.
40	Vitamin D	Vitamin D may reduce the risk of hypertension.
41	Vitamin D	Vitamin D reduces the risk of osteomalacia.
42	Vitamin D	Vitamin D reduces the risk of bacterial infection and viruses.
43	Vitamin D	Vitamin D reduces the risk of osteoporosis by facilitating the absorption of calcium.
44	Vitamin D	Vitamin D reduces the risk of rickets in children and osteomalacia in adults.
45	Vitamin E	Vitamin E reduces the risk of pathogenic bacteria and viruses.
46	Vitamin E	Vitamin E reduces the risk of cell adhesion and platelet aggregation, thereby reducing the risk of atherosclerosis.
47	Vitamin E	Vitamin E can prevent loss of body control, muscle weakness and numbness in the arms and legs caused by vitamin E deficiency.

48	Iodine	Adequate iodine during pregnancy reduces the risk of abnormal bone and brain development in fetuses.
49	Iodine	Iodine-containing supplement reduces the risk of reasoning disabilities and abnormal cognitive function in mildly iodine deficient children.
50	Iodine	Iodine supplementation by pregnant women reduces the risk of stunted growth, intellectual disabilities and delayed sexual development of fetuses
51	Iron	Iron is required for proper growth and development.
52	Iron	Iron supplementation by pregnant women reduces the risk of abnormal fetal growth and development.
53	Iron	Iron supplementation by pregnant women reduces the risk of low fetal birth weight or premature fetal birth.
54	Vitamin K	Vitamin K1 supplementation reduces the risk of excessive bruising or bleeding
55	Vitamin K	Vitamin K2 may reduce the risk of osteoporosis.
56	Magnesium	Magnesium may help reduce the risk of type 2 diabetes.
57	Magnesium	Magnesium may help reduce the risk of insulin resistance.
58	Magnesium	Magnesium may reduce the risk of bone fractures.
59	Magnesium	Magnesium may reduce the risk of osteoporosis.
60	Magnesium	Magnesium may reduce the risk of bone mineral density loss in post-menopausal women.
61	Magnesium	Magnesium may reduce the risk of migraine headaches.
62	Magnesium	Magnesium may help reduce the risk of heart arrhythmia.
63	Magnesium	Magnesium may reduce the risk of cardiovascular disease.
64	Magnesium	Magnesium may lower blood pressure.
65	Magnesium	Magnesium may reduce the risk of abnormal endothelial function.
66	Magnesium	Magnesium may reduce inflammation in the body which is a risk factor for cardiovascular disease.
67	Manganese	Manganese may reduce the risk of osteoporosis.

68	Manganese	Manganese may reduce the risk of blood clots.
69	Molybdenum	Molybdenum may reduce the risk of toxicity posed by drugs and toxic substances in the body.
70	Multivitamin/mineral Supplements	The combination of vitamin C (500 mg/day), Vitamin E (400 IU/day), zinc (80 mg/day), Copper (2 mg a day), lutein (10 mg/day) and zeaxanthin (2 mg/day) may reduce the risk of age-related macular degeneration (AMD).
71	Potassium	Potassium may reduce the risk of high blood pressure (hypertension).
72	Potassium	Increasing the daily intake of potassium while keeping sodium intake within the range of 4 to 6 grams daily may reduce the risk of hypertension and stroke.
73	Potassium	Potassium supplementation may reduce the risk of kidney stones.
74	Potassium	Potassium supplementation may reduce the risk of osteoporosis.
75	Zinc	Zinc may reduce the risk of pathogenic bacteria and viruses.
76	Zinc	Zinc may reduce the length of wound healing.
77	Zinc	Zinc may reduce the duration of the common cold.
78	Zinc	Zinc may reduce the risk of pneumonia.
79	Zinc	Zinc may reduce the risk of type 2 diabetes.
80	Zinc	Zinc may reduce the risk of hypercholesterolemia.
81	Zinc	Zinc may reduce the frequency of infections.
82	Vitamin B5/Pantothenic acid	Pantothenic acid may reduce the risk of hyperlipidemia (abnormally high levels of lipids [fats] such as cholesterol or triglycerides in the blood)
83	Selenium	Selenium may reduce the risk of damage from infections.
84	Selenium	Selenium may reduce the risk of hypothyroidism (low thyroid activity).
85	Selenium	Selenium may reduce the risk of cognitive decline.
86	Selenium	Selenium may reduce the risk of Keshan Disease.
87	Selenium	Selenium may reduce the risk of cardiovascular disease by reducing inflammation and platelet aggregation, and lipid oxidation.

88	Alfafa ( <i>Medicago sativa</i> )	Alfalfa may lower blood sugar levels.
89	American ginseng ( <i>Panax quinquefolius</i> )	American ginseng may help lower blood sugar levels.
90	Ashwagandha ( <i>Withania somnifera</i> )	Ashwagandha may reduce insomnia.
91	Astragalus ( <i>Astragalus membranaceus</i> )	Astragalus may reduce the risk of lower respiratory infections.
92	Bromelain (from pineapple. <i>Ananas comosus</i> )	Preliminary research suggests that bromelain may reduce the risk of sinus congestion.
93	Chamomile ( <i>Matricaria recutita</i> , <i>Chamomilla recutita</i> )	Chamomile may reduce the risk of mild depression.
94	Chamomile ( <i>Matricaria recutita</i> , <i>Chamomilla recutita</i> )	Chamomile may reduce the risk of diarrhea in children and colic in infants.
95	Clove ( <i>Syzygium aromaticum</i> )	Clove oil may reduce the risk of infection.
96	Cranberry ( <i>Vaccinium macrocarpon</i> )	Cranberry extracts may reduce the risk of repeat urinary tract infections (UTIs) in women.
97	Elderberry ( <i>Sambucus nigra</i> )	Elderberry may reduce the risk of colds, flu, and other upper respiratory infections.
98	Flaxseed ( <i>Linum usitatissimum</i> )	Flaxseed oil supplements containing alpha-linolenic acid (ALA) may help reduce the risk of insulin resistance.
99	Garlic ( <i>Allium sativum</i> )	Garlic supplements may reduce total and LDL ('bad') cholesterol in people with high cholesterol levels.
100	Ginger ( <i>Zingiber officinale</i> )	Ginger may reduce the risk of nausea and vomiting associated with pregnancy.
101	Ginkgo ( <i>Ginkgo biloba</i> )	Ginkgo Biloba may help reduce the risk of dementia.
102	Asian Ginseng ( <i>Panax ginseng</i> )	Panax ginseng may reduce blood glucose levels, total cholesterol, and inflammation.
103	Asian Ginseng ( <i>Panax ginseng</i> )	Panax ginseng may reduce the risk of sexual dysfunction, including erectile dysfunction (ED).
104	Grape ( <i>Vitis</i> spp.)	Grape-derived antioxidants may reduce the risk of heart disease.

105	Grape ( <i>Vitis</i> spp.)	Proanthocyanidin-rich grape seed extracts may reduce the risk of chronic venous insufficiency (CVI).
106	Green Coffee ( <i>Coffea</i> spp.) Bean	Green coffee bean extracts may lower blood sugar levels.
107	Green Tea ( <i>Camellia sinensis</i> )	Green tea may lower total and LDL ('bad') cholesterol.
108	Hibiscus ( <i>Hibiscus sabdariffa</i> )	Hibiscus sabdariffa may reduce blood pressure, blood sugars and triglycerides.
109	Hibiscus ( <i>Hibiscus sabdariffa</i> )	Hibiscus sabdariffa may reduce the risk of chronic constipation.
110	Hibiscus ( <i>Hibiscus sabdariffa</i> )	Hibiscus sabdariffa tea or extracts may reduce inflammation.
111	Horsetail ( <i>Aesculus hippocastanum</i> )	Horsetail may reduce the risk of urinary tract infections (UTIs).
112	Lavender ( <i>Lavandula angustifolia</i> )	Lavender ( <i>Lavandula angustifolia</i> ) oil taken orally may reduce sexual dysfunction in menopausal and post-menopausal women.
113	Oregano ( <i>Origanum vulgare</i> )	Oregano oil or extracts may reduce the risk of infections.
114	Peppermint ( <i>Mentha x piperita</i> )	Peppermint ( <i>Mentha x piperita</i> ) leaves (or oil) may help reduce the risk of irritable bowel syndrome (IBS).
115	Rose Hip ( <i>Rosa</i> spp.)	Rose hip (from <i>Rosa canina</i> and other rose species) extracts may reduce the risk of osteoarthritis.
116	Spearmint ( <i>Mentha spicata</i> )	Spearmint ( <i>Mentha spicata</i> ) oil may reduce inflammation.
117	Turmeric ( <i>Curcuma longa</i> )	Turmeric ( <i>Curcuma longa</i> ) extracts may reduce the risk of osteoarthritis.
118	Omega-3 fatty acids	Omega-3 fatty acids rich in EPA and DHA may reduce inflammation.
119	Omega-3 fatty acids	Omega-3 fatty acids may reduce the risk of cancer.
120	Blue-green algae	Blue-green algae may help reduce the risk of high blood pressure (hypertension).

121	Blue-green algae	Blue-green algae reduce the risk of hypertension, cholesterolemia, diabetes, and other health conditions
122	Fiber	Fiber may help lower blood glucose and insulin levels after eating carbohydrates.
123	Fiber	Fiber may lower fasting blood glucose levels.
124	Fiber	Fiber may reduce the risk of high blood pressure (hypertension)
125	Fiber	Fiber may reduce the risk of chronic constipation.

## **EXHIBIT 2**

Authoritative statements, authority, references, and quantitative amounts pertaining to each numbered proposed claim (as specified in Exhibit 1)

Health Claim No	Substance(s)	Authoritative statements	Authority/ Agency	Reference (URL)	Minimum Dosage (derived from science supporting relevant authoritative statement)
1	Vitamin A and Carotenoids	A long-term deficiency of vitamin A can also lead to a higher risk of respiratory diseases (such as pneumonia) and infections (such as measles and diarrhea). It can also cause anemia (a condition in which the red blood cells do not supply enough oxygen to the body). In severe cases, not getting enough vitamin A can increase your chances of dying.	Department of Health & Human Services (DHHS)	<a href="https://ods.od.nih.gov/factsheets/VitaminA-Consumer/">https://ods.od.nih.gov/factsheets/VitaminA-Consumer/</a> <a href="https://ods.od.nih.gov/factsheets/VitaminA-HealthProfessional/">https://ods.od.nih.gov/factsheets/VitaminA-HealthProfessional/</a>	900 mcg RAE (adult male)
2	Vitamin A and Carotenoids	People who eat a lot of foods containing vitamin A or beta-carotene might have a lower risk of certain kinds of cancer. However, studies do not show that vitamin A or beta-carotene supplements help prevent cancer or lower the chances of dying of cancer. In fact, some studies find that in people who smoke or used to smoke, high doses of beta-carotene supplements can increase the risk of lung cancer and death.	Department of Health & Human Services (DHHS)		
3	Vitamin A and Carotenoids	Studies show that a supplement containing vitamins C and E, zinc, and copper with or without beta-carotene helps slow down the rate of vision loss in people with AMD who are at high risk of developing advanced AMD. The same supplement, containing lutein and zeaxanthin instead of beta-carotene, reduces the risk of progression to advanced AMD even more and eliminates the increased risk of lung cancer from high doses of beta-carotene.	Department of Health & Human Services (DHHS)		
4	Vitamin A and Carotenoids	Vitamin A supports healthy eyesight and immune system functions. Children with vitamin A deficiency face an increased risk of blindness and death from infections such as measles and diarrhea. Providing vitamin A supplements to children ages 6	Centers for Disease Control and Prevention (CDC)	<a href="https://www.cdc.gov/nutrition/features/micronutrient-facts.html">https://www.cdc.gov/nutrition/features/micronutrient-facts.html</a> <a href="https://iris.who.int/bitstream/handle/10665/44664/978">https://iris.who.int/bitstream/handle/10665/44664/978</a>	60 mg RE (every 4-6 months) children aged 12-59 months)

		months up to 5 years is effective in reducing deaths from causes related to vitamin A deficiency.		<a href="#">9241501767_eng.pdf?sequence=1</a>	
5	Boron	Observational evidence combined with the findings from a few small clinical studies in humans suggests that boron might be helpful for reducing the symptoms of osteoarthritis, possibly by inhibiting inflammation.	National Institutes of Health	<a href="https://ods.od.nih.gov/factsheets/Boron-Consumer/">https://ods.od.nih.gov/factsheets/Boron-Consumer/</a> <a href="https://ods.od.nih.gov/factsheets/Boron-HealthProfessional/">https://ods.od.nih.gov/factsheets/Boron-HealthProfessional/</a> Ref: <a href="https://pubmed.ncbi.nlm.nih.gov/25063690/">https://pubmed.ncbi.nlm.nih.gov/25063690/</a> <a href="https://pubmed.ncbi.nlm.nih.gov/21607703/">https://pubmed.ncbi.nlm.nih.gov/21607703/</a> <a href="https://pubmed.ncbi.nlm.nih.gov/7889887/">https://pubmed.ncbi.nlm.nih.gov/7889887/</a> <a href="https://pubmed.ncbi.nlm.nih.gov/24940052/">https://pubmed.ncbi.nlm.nih.gov/24940052/</a>	20 mg
6	Boron				
7	Boron	Preliminary evidence suggests that dietary boron intake might affect cancer risk.	National Institutes of Health	<a href="https://ods.od.nih.gov/factsheets/Boron-HealthProfessional/">https://ods.od.nih.gov/factsheets/Boron-HealthProfessional/</a> Ref: <a href="https://pubmed.ncbi.nlm.nih.gov/31639188/">https://pubmed.ncbi.nlm.nih.gov/31639188/</a> <a href="https://pubmed.ncbi.nlm.nih.gov/29173473/">https://pubmed.ncbi.nlm.nih.gov/29173473/</a> <a href="https://pubmed.ncbi.nlm.nih.gov/17295277/">https://pubmed.ncbi.nlm.nih.gov/17295277/</a> <a href="https://pubmed.ncbi.nlm.nih.gov/21196370/">https://pubmed.ncbi.nlm.nih.gov/21196370/</a> <a href="https://pubmed.ncbi.nlm.nih.gov/15010890/">https://pubmed.ncbi.nlm.nih.gov/15010890/</a> <a href="https://pubmed.ncbi.nlm.nih.gov/18343880/">https://pubmed.ncbi.nlm.nih.gov/18343880/</a>	

8	Boron	Boron might be important for bone growth and formation, possibly by affecting osteoblast and/or osteoclast activity or by influencing serum steroid hormone levels and calcium metabolism [4,6,11,32].	National Institutes of Health	<a href="https://ods.od.nih.gov/factsheets/Boron-HealthProfessional/">https://ods.od.nih.gov/factsheets/Boron-HealthProfessional/</a> Ref: <a href="https://pubmed.ncbi.nlm.nih.gov/22658717/">https://pubmed.ncbi.nlm.nih.gov/22658717/</a> <a href="https://pubmed.ncbi.nlm.nih.gov/26686846/">https://pubmed.ncbi.nlm.nih.gov/26686846/</a>	
9	Vitamin B1/Thiamin	Thiamin deficiency can cause loss of weight and appetite, confusion, memory loss, muscle weakness, and heart problems. Severe thiamin deficiency leads to a disease called beriberi with the added symptoms of tingling and numbness in the feet and hands, loss of muscle, and poor reflexes. Beriberi is not common in the United States and other developed countries.	Department of Health & Human Services (DHHS)	<a href="https://ods.od.nih.gov/factsheets/Thiamin-Consumer/">https://ods.od.nih.gov/factsheets/Thiamin-Consumer/</a> <a href="https://ods.od.nih.gov/factsheets/Thiamin-HealthProfessional/">https://ods.od.nih.gov/factsheets/Thiamin-HealthProfessional/</a>	1.4 mg
10	Vitamin B2/Riboflavin	Some studies show that riboflavin supplements might help prevent migraine headaches, but other studies do not.	Department of Health & Human Services (DHHS)	<a href="https://ods.od.nih.gov/factsheets/Riboflavin-Consumer/">https://ods.od.nih.gov/factsheets/Riboflavin-Consumer/</a> <a href="https://ods.od.nih.gov/factsheets/Riboflavin-HealthProfessional/">https://ods.od.nih.gov/factsheets/Riboflavin-HealthProfessional/</a>	1.3 mg
11	Vitamin B2/Riboflavin	Riboflavin deficiency can cause skin disorders, sores at the corners of your mouth, swollen and cracked lips, hair loss, sore throat, liver disorders, and problems with your reproductive and nervous systems. Severe, long-term riboflavin deficiency causes a shortage of red blood cells (anemia), which makes you feel weak and tired. It also causes clouding of the lens in your eyes (cataracts), which affects your vision.	Department of Health & Human Services (DHHS)	<a href="https://ods.od.nih.gov/factsheets/Riboflavin-HealthProfessional/">https://ods.od.nih.gov/factsheets/Riboflavin-HealthProfessional/</a>	
12	Niacin	Scientists have studied the use of large doses of niacin in the form of nicotinic acid to help reduce the risk of heart attack and stroke in people with atherosclerosis. They found that prescription-strength nicotinic acid (more than 100 times the recommended dietary allowance) can lower blood levels of LDL (bad) cholesterol, raise levels of HDL (good) cholesterol, and lower levels of triglycerides. However, these favorable effects on blood lipids (fats) don't affect the risk of having a cardiovascular event,	Department of Health & Human Services (DHHS)	<a href="https://ods.od.nih.gov/factsheets/Niacin-Consumer/">https://ods.od.nih.gov/factsheets/Niacin-Consumer/</a> <a href="https://ods.od.nih.gov/factsheets/Niacin-HealthProfessional/">https://ods.od.nih.gov/factsheets/Niacin-HealthProfessional/</a>	16 mg NE

		such as heart attack, sudden cardiac death, or stroke.			
13	Vitamin B12/Cobalamin	Vitamin B12 supplements (along with other B vitamins) reduce blood levels of homocysteine, a compound linked to an increased risk of having a heart attack or stroke. However, despite reducing homocysteine, research shows that these vitamins don't reduce the risk of developing cardiovascular disease or stroke.	Department of Health & Human Services (DHHS)	<a href="https://ods.od.nih.gov/factsheets/VitaminB12-Consumer/">https://ods.od.nih.gov/factsheets/VitaminB12-Consumer/</a> <a href="https://ods.od.nih.gov/factsheets/VitaminB12-HealthProfessional/">https://ods.od.nih.gov/factsheets/VitaminB12-HealthProfessional/</a>	2.4 mcg
14	Vitamin B12/Cobalamin	Vitamin B12 is a nutrient that helps keep your body's blood and nerve cells healthy and helps make DNA, the genetic material in all of your cells. Vitamin B12 also helps prevent megaloblastic anemia, a blood condition that makes people tired and weak.	Department of Health & Human Services (DHHS)		
15	Vitamin B12/Cobalamin		Department of Health & Human Services (DHHS)		
16	Vitamin B12/Cobalamin		Department of Health & Human Services (DHHS)		
17	Vitamin B12/Cobalamin		Department of Health & Human Services (DHHS)		
18	Vitamin B12/Cobalamin		Department of Health & Human Services (DHHS)		

19	Chromium	<p>Impaired glucose tolerance and diabetes Because chromium might potentiate the action of insulin, studies have examined whether increasing chromium intakes might reduce the risk of impaired glucose tolerance.</p> <p>Numerous randomized controlled trials have assessed the effects of chromium supplements—often at pharmacological doses (e.g., in the hundreds of mcg)—in people without diabetes or with glucose intolerance or diabetes [16]. One of the most commonly cited intervention studies of the effects of chromium supplementation for type 2 diabetes was a 1997 randomized controlled trial [37]. The trial assigned 180 adults age 35–65 years with type 2 diabetes to receive 100 mcg chromium (as chromium picolinate), 500 mcg chromium, or placebo twice daily for 4 months. At both 2 and 4 months, participants receiving 1,000 mcg/day chromium had significantly lower fasting serum glucose concentrations than those receiving placebo or 200 mcg/day chromium. At 4 months, for example, mean fasting serum glucose levels were 7.1 mmol/L (128 mg/dL) in the group receiving 1,000 mcg/day chromium and 8.8 mmol/L (159 mg/dL) in those receiving placebo. Mean serum glucose concentrations after a 75 g glucose challenge were also significantly lower at both 2 and 4 months in those receiving 1,000 mcg/day chromium (10.5 mmol/L [189 mg/dL] at 4 months vs. 12.3 mmol/L [222 mg/dL] for placebo). In comparison with placebo, both 200 mcg and 1,000 mcg/day chromium also significantly reduced fasting insulin concentrations at both 2 and 4 months, as well as insulin concentrations after a glucose challenge. Finally, hemoglobin A1c (HbA1c) levels were significantly lower after 4 months in participants receiving 200 mcg/day chromium (mean 7.5%) or</p>	National Institutes of Health	<a href="https://ods.od.nih.gov/factsheets/chromium-Consumer/">https://ods.od.nih.gov/factsheets/chromium-Consumer/</a> <a href="https://ods.od.nih.gov/factsheets/Chromium-HealthProfessional/">https://ods.od.nih.gov/factsheets/Chromium-HealthProfessional/</a>	35 mcg
20	Chromium		National Institutes of Health		
21	Chromium		National Institutes of Health		
22	Chromium		National Institutes of Health		

		<p>1,000 mcg/day chromium (mean 6.6%) than in those receiving placebo (mean 8.5%). HbA1c is a robust measure of blood glucose control because it reflects long-term changes in blood glucose levels [38].</p> <p>Several subsequent studies that used various doses of chromium had inconsistent findings. A 2019 review of chromium and glycemic control included eight meta-analyses and systematic reviews of a total of 58 clinical trials [16]. The trials lasted from 3 weeks to 6 months and administered 1.28 to 1,000 mcg chromium daily. The most frequently used form was chromium picolinate, followed by yeasts containing chromium and chromium chloride. Overall, when used as an adjuvant treatment, chromium lowered fasting plasma glucose and HbA1c levels slightly in people with diabetes. However, the clinical significance of these findings is unclear. The authors of a 2016 review of chromium supplementation in people with type 2 diabetes drew similar conclusions, noting the insufficient rationale to recommend chromium supplements for people with type 2 diabetes and that chromium supplements do not help moderate glucose levels in healthy individuals [39].</p> <p>Some research suggests that responses to chromium supplementation may vary, and supplements might be more likely to benefit people with more severe insulin resistance and poorer glycemic control [18,40]. In a randomized trial in 137 participants age 30–70 years with type 2 diabetes, daily supplementation with 1,000 mcg chromium (as chromium picolinate) for 24 weeks did not significantly affect insulin sensitivity, fasting glucose levels, or HbA1c values in comparison with placebo [40]. However, some participants did respond to chromium supplementation, and these people had</p>			
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		<p>significantly lower insulin sensitivity (3.98 vs. 5.91 mg/kg fat-free mass/min) and higher fasting glucose (8.5 vs. 6.7 mmol/L [153 vs. 121 mg/dL]) and HbA1c levels (7.57 vs. 6.29%) than those who did not respond.</p> <p>Manufacturers market chromium supplements widely in the United States for people with type 2 diabetes, and many adults use them in the hope that the supplements will reduce their risk of diabetes or improve their glycemic control [6,8,18,39]. However, FDA allows only the following qualified health claim for chromium picolinate dietary supplements:</p> <p>“One small study suggests that chromium picolinate may reduce the risk of insulin resistance, and therefore possibly may reduce the risk of type 2 diabetes. FDA concludes, however, that the existence of such a relationship between chromium picolinate and either insulin resistance or type 2 diabetes is highly uncertain” [41,42].</p> <p>In its 2010 diabetes guidelines, the American Diabetes Association concluded that because studies have not definitively shown that chromium supplementation benefits people with diabetes or obesity, the association cannot recommend such supplementation [43]. This determination was based on conflicting evidence from poorly controlled or uncontrolled studies. Similarly, the association concluded in its 2015 position statement that evidence is insufficient to support the routine use of supplements containing chromium and other micronutrients for glycemic control in people with diabetes [44]. Additional research is needed to determine whether specific populations (e.g., ethnic background, obesity status, baseline insulin sensitivity, and medication use) might be more likely than others to benefit from chromium</p>			
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		<p>supplementation [18].</p> <p><b>Metabolic syndrome</b>  Metabolic syndrome is a group of risk factors—abdominal obesity, high triglyceride level, low high-density lipoprotein (HDL; good) cholesterol level, hypertension, and high fasting blood glucose level—that raise the risk of heart disease, diabetes, and stroke [45]. Insulin resistance is an integral component of this condition and is a potential therapeutic target for dietary interventions for metabolic syndrome [46]. A prospective study of 3,648 adults age 20–32 years found that baseline toenail chromium concentrations were inversely associated with the incidence of metabolic syndrome over 23 years of follow-up [47]. For these reasons, some scientists have hypothesized that chromium supplements might benefit people with metabolic syndrome.</p> <p>Only a few clinical trials of chromium supplementation for metabolic syndrome have been conducted [46,48-50]. One of these trials included 63 adults age 18 to 75 years with metabolic syndrome who received either 500 mcg chromium picolinate or placebo twice daily for 16 weeks [46]. In comparison with placebo, chromium supplementation significantly increased acute insulin response to glucose but did not affect HbA1c levels, insulin sensitivity, or other measures of glucose metabolism. Chromium supplementation also had no effect on body weight or serum lipids.</p> <p>Similarly, in a 2018 clinical trial of 70 adults (mean age 58 years) with metabolic syndrome and impaired glucose tolerance, daily supplementation with 300 mcg chromium (200 mcg with breakfast and 100 mcg with dinner, as chromium yeast) for 24 weeks did not</p>			
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		<p>affect fasting glucose levels, HbA1c, waist circumference, blood pressure, or lipid levels [49].</p> <p>Overall, limited research suggests that chromium supplements do not significantly benefit people with metabolic syndrome.</p> <p><b>Polycystic ovary syndrome</b>  PCOS is a common endocrine disorder affecting women of reproductive age. It is characterized by infertility, obesity, dyslipidemia, hyperandrogenism, and elevated risks of type 2 diabetes and cardiovascular disease [51,52]. Because insulin resistance is often a central component of PCOS, studies have investigated the use of chromium supplements in people with PCOS to help maintain glycemic control and reduce lipid levels [16,53].</p> <p>Four recent systematic reviews and meta-analyses of randomized clinical trials have examined the effects of chromium supplements on signs and symptoms of PCOS [52,54-56]. One analysis included seven trials with a total of 351 participants that administered chromium (as chromium picolinate) at 200 mcg to 1,000 mcg daily for 8 to 24 weeks [52]. Chromium supplementation had no effect on fasting blood glucose, total testosterone, dehydroepiandrosterone, follicle-stimulating hormone, or luteinizing hormone levels. However, chromium did significantly reduce body mass index (BMI) by 2.37 kg/m<sup>2</sup> and free testosterone levels by 0.52 pg/mL in comparison with placebo; it also significantly reduced fasting insulin levels by 0.33 milli-IU/mL.</p> <p>Another systematic review and meta-analysis of five randomized trials lasting 8 weeks to 6 months that included a total of 268 women with PCOS compared supplemental chromium (200–1,000 mcg/d, mostly</p>			
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		<p>as chromium picolinate) with placebo or metformin [55]. Chromium supplementation had no significant effect on fasting insulin levels or insulin sensitivity, but data from two trials showed that it did significantly lower a measure of insulin resistance. In addition, one trial included in the review found that chromium supplementation significantly improved a measure of beta-cell function. The authors concluded that the magnitude of chromium’s effect was small and of uncertain clinical relevance. Similarly, another meta-analysis and a systematic review had mixed findings [54,56].</p> <p>Overall, the evidence on whether chromium supplementation reduces the risk of PCOS or is beneficial for women with this condition is mixed, making it difficult to draw firm conclusions [16]. Additional studies with sufficient samples sizes and duration in well-defined populations are needed [53].</p> <p><b>Dyslipidemia</b>  Numerous studies show associations between poor chromium status and elevated blood cholesterol levels [7]. Therefore, scientists hypothesize that chromium supplementation might improve blood lipid levels. Studies have examined this possibility in various populations, including people with impaired glucose tolerance, diabetes, or PCOS.</p> <p>In a randomized clinical trial in 71 participants (mean age 54.1 years) with poorly controlled type 2 diabetes (HbA1c of at least 7%), supplementation with 600 mcg/day chromium picolinate for 4 months had no effect on total cholesterol, HDL, low-density lipoprotein (LDL; bad) cholesterol, or triglyceride levels in comparison with placebo [57]. However, an 8-week trial in 40 women with PCOS age 18–40 years found that 200 mcg/day chromium as chromium</p>			
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		<p>picolinate significantly decreased serum triglycerides in comparison with placebo (-19.2 vs. +8.3 mg/dL) and total cholesterol levels (-15.3 vs. -0.6 mg/dL) [58]. Results of studies with higher doses of supplemental chromium have also been mixed [37,59].</p> <p>Overall, meta-analyses examining the effects of chromium supplementation in people with diabetes [60-64] and PCOS [54] have shown no significant changes in total cholesterol and LDL cholesterol levels [16]. However, some have shown that chromium supplementation increases HDL cholesterol levels by 1.73–4.64 mg/dL and decreases triglyceride levels by 11.71–26.57 mg/dL [63,64].</p> <p>Additional research is needed to determine whether chromium supplementation has any clinically significant effects on dyslipidemia.</p> <p><b>Weight and lean body mass</b>  Because chromium might amplify insulin action, some scientists have proposed that chromium supplementation could reduce the amount of glucose converted to fat and increase protein synthesis and, hence, muscle mass [12]. Some preliminary research also indicates that chromium supplements might reduce food intakes, hunger levels, and fat cravings [65]. Therefore, chromium supplementation has been proposed to both enhance weight loss and improve body composition by decreasing body fat and increasing lean body mass; its effects on these outcomes have been evaluated in several clinical trials [12,66-69].</p> <p>A 2019 meta-analysis included 21 trials that measured the impact of chromium supplementation on anthropometric indexes in a total of 1,316</p>			
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		<p>participants age 18 or older with overweight or obesity [70]. Trial durations ranged from 9 to 24 weeks, and chromium doses were 200 to 1,000 mcg per day. Most trials used chromium picolinate, and others used chromium-enriched yeast or chromium nicotinate. Participants taking chromium supplements lost significantly more weight, 0.75 kg, than those taking placebo and had a significant 0.40 kg/m<sup>2</sup> reduction in BMI and body fat percentage, 0.68%, in comparison with placebo. The chromium supplements had no significant effect on waist circumference or waist-to-hip ratio.</p> <p>Two other systematic reviews and meta-analyses had similar findings [71,72], as did a 2013 Cochrane Review [67]. The Cochrane Review’s authors noted that the effect of chromium supplementation on body weight is of “debatable clinical relevance” and the overall quality of the evidence is low.</p> <p>Overall, research suggests that supplementation with chromium, mainly in the form chromium picolinate, reduces body weight and body fat percentage to a very small, but statistically significant, extent. However, these effects have little clinical significance.</p> <p><b>Health Risks from Excessive Chromium</b>  The FNB concluded that no adverse effects have been linked to high intakes of chromium from food or supplements, so it did not establish a UL for chromium [2]. However, the FNB noted that caution may be warranted because the data are limited and that high intakes of chromium could have adverse effects [2,3,6]. The FNB also pointed out that people with renal and liver disease might be susceptible to adverse effects from high chromium intakes [2].</p>			
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		According to isolated case reports, chromium supplements might cause weight loss, anemia, thrombocytopenia, liver dysfunction, renal failure, rhabdomyolysis, dermatitis, and hypoglycemia [73,74].			
23	Vitamin B6	The body needs vitamin B6 for more than 100 enzyme reactions involved in metabolism. Vitamin B6 is also involved in brain development during pregnancy and infancy as well as immune function.	Department of Health & Human Services (DHHS)	<a href="https://ods.od.nih.gov/factsheets/VitaminB6-Consumer/">https://ods.od.nih.gov/factsheets/VitaminB6-Consumer/</a> <a href="https://ods.od.nih.gov/factsheets/VitaminB6-HealthProfessional/">https://ods.od.nih.gov/factsheets/VitaminB6-HealthProfessional/</a>	1.3 mg 1.9 mg in pregnancy 2.0 mg during lactation
24	Vitamin B6	Some scientists had thought that certain B vitamins (such as folic acid, vitamin B12, and vitamin B6) might reduce cardiovascular disease risk by lowering levels of homocysteine, an amino acid in the blood. Although vitamin B supplements do lower blood homocysteine, research shows that they do not actually reduce the risk or severity of heart disease or stroke.	Department of Health & Human Services (DHHS)		
25	Vitamin B6	People who don't get enough vitamin B6 can have a range of symptoms, including anemia, itchy rashes, scaly skin on the lips, cracks at the corners of the mouth, and a swollen tongue. Other symptoms of very low vitamin B6 levels include depression, confusion, and a weak immune system. Infants who do not get enough vitamin B6 can become irritable or develop extremely sensitive hearing or seizures.	Department of Health & Human Services (DHHS)		
26	Vitamin B9/Folate	Folate that is naturally present in food may decrease the risk of several forms of cancer, but folate supplements might have different effects on cancer risk depending on how much the person takes and when. People who take recommended amounts of folic acid before cancer develops might decrease cancer risk, but taking high doses after cancer (especially colorectal cancer) begins might speed up its progression.	Department of Health & Human Services (DHHS)	<a href="https://ods.od.nih.gov/factsheets/Folate-Consumer/">https://ods.od.nih.gov/factsheets/Folate-Consumer/</a> <a href="https://ods.od.nih.gov/factsheets/Folate-HealthProfessional/">https://ods.od.nih.gov/factsheets/Folate-HealthProfessional/</a>	RDA 400 mcg per day. 600 mcg per day in pregnancy.

27	Vitamin B9/Folate	People with low blood levels of folate might be more likely to have depression. In addition, they might not respond as well to antidepressant treatment as people with normal folate levels. Folate supplements, particularly those that contain 5-MTHF, might make antidepressant medications more effective. However, whether supplements help both people with normal folate levels and those with folate deficiency isn't clear.	Department of Health & Human Services (DHHS)		
28	Vitamin B9/Folate	Getting too little folate can result in megaloblastic anemia, a blood disorder that causes weakness, fatigue, trouble concentrating, irritability, headache, heart palpitations, and shortness of breath. Folate deficiency can also cause open sores on the tongue and inside the mouth as well as changes in the color of the skin, hair, or fingernails. Women who don't get enough folate are at risk of having babies with neural tube defects, such as spina bifida. Folate deficiency can also increase the likelihood of having a premature or low birth weight baby.	Department of Health & Human Services (DHHS)		
29	Vitamin B9/Folate	Folate is essential in the earliest days of fetal growth for healthy development of the brain and spine. Folic acid is another form of vitamin B9. Women of reproductive age need 400 micrograms of folic acid every day.	Centers for Disease Control and Prevention (CDC)	<a href="https://www.cdc.gov/nutrition/features/micronutrient-facts.html">https://www.cdc.gov/nutrition/features/micronutrient-facts.html</a>	
30	Calcium	Preeclampsia is a serious complication of late pregnancy. Symptoms include high blood pressure and high levels of protein in the urine. Calcium supplements might reduce the risk of preeclampsia in some pregnant women who consume too little calcium. Therefore, many experts recommend calcium supplements during pregnancy for women with low calcium intakes.	Department of Health & Human Services (DHHS)	<a href="https://ods.od.nih.gov/factsheets/Calcium-Consumer/">https://ods.od.nih.gov/factsheets/Calcium-Consumer/</a> <a href="https://ods.od.nih.gov/factsheets/Calcium-HealthProfessional/">https://ods.od.nih.gov/factsheets/Calcium-HealthProfessional/</a>	1000 mg
31	Calcium	Some research suggests that a higher intake of calcium might help lower the risk of metabolic syndrome in women but not men. More studies are needed.	Department of Health & Human Services (DHHS)		

32	Calcium	Getting too little calcium can cause several conditions, including the following: Osteoporosis, which causes weak, fragile bones and increases the risk of falls and fractures (broken bones) Rickets, a disease in children that causes soft, weak bones Osteomalacia, which causes soft bones in children and adults	Department of Health & Human Services (DHHS)		
33	Choline	Getting enough choline is necessary for proper liver function and to prevent NAFLD. However, more research is needed to better understand how choline might help prevent or treat NAFLD. [1] However, if a person's choline levels drop too low, he or she can experience muscle and liver damage as well as deposits of fat in the liver (a condition called nonalcoholic fatty liver disease [NAFLD] that can damage the liver). [2]	Department of Health & Human Services (DHHS)	<a href="https://ods.od.nih.gov/factsheets/Choline-Consumer/">https://ods.od.nih.gov/factsheets/Choline-Consumer/</a> [1]  <a href="https://ods.od.nih.gov/factsheets/Choline-HealthProfessional/">https://ods.od.nih.gov/factsheets/Choline-HealthProfessional/</a> [2]	550 mg
34	Copper	Copper deficiency can cause extreme tiredness, lightened patches of skin, high levels of cholesterol in the blood, and connective tissue disorders affecting the ligaments and skin. Other effects of copper deficiency are weak and brittle bones, loss of balance and coordination, and increased risk of infection.	Department of Health & Human Services (DHHS)	<a href="https://ods.od.nih.gov/factsheets/Copper-Consumer/">https://ods.od.nih.gov/factsheets/Copper-Consumer/</a> <a href="https://ods.od.nih.gov/factsheets/Copper-HealthProfessional/">https://ods.od.nih.gov/factsheets/Copper-HealthProfessional/</a>	900 mcg
35	Vitamin C	The body also needs vitamin C to make collagen, a protein required to help wounds heal. In addition, vitamin C improves the absorption of iron from plant-based foods and helps the immune system work properly to protect the body from disease.	Department of Health & Human Services (DHHS)	<a href="https://ods.od.nih.gov/factsheets/VitaminC-Consumer/">https://ods.od.nih.gov/factsheets/VitaminC-Consumer/</a> <a href="https://ods.od.nih.gov/factsheets/VitaminC-HealthProfessional/">https://ods.od.nih.gov/factsheets/VitaminC-HealthProfessional/</a>	90 mg
36	Vitamin C		Department of Health & Human Services (DHHS)		
37	Vitamin C		Department of Health & Human Services (DHHS)		
38	Vitamin D	Vitamin D is a nutrient you need for good health. It helps your body absorb calcium, one of the main building blocks for strong bones. Together with calcium, vitamin D helps protect you from developing	Department of Health & Human Services (DHHS)	<a href="https://ods.od.nih.gov/factsheets/VitaminD-Consumer/">https://ods.od.nih.gov/factsheets/VitaminD-Consumer/</a> <a href="https://ods.od.nih.gov/factsheets/VitaminD-HealthProfessional/">https://ods.od.nih.gov/factsheets/VitaminD-HealthProfessional/</a>	15 mcg 20 mcg (>70 years)

		osteoporosis, a disease that thins and weakens the bones and makes them more likely to break.		heets/VitaminD-HealthProfessional/	
39	Vitamin D	Your muscles need it to move, and your nerves need it to carry messages between your brain and your body. Your immune system needs vitamin D to fight off invading bacteria and viruses	Department of Health & Human Services (DHHS)		
40	Vitamin D	Vitamin D is important for a healthy heart and blood vessels and for normal blood pressure.	Department of Health & Human Services (DHHS)		
41	Vitamin D	In children, vitamin D deficiency causes rickets, a disease in which the bones become soft, weak, deformed, and painful. In teens and adults, vitamin D deficiency causes osteomalacia, a disorder that causes bone pain and muscle weakness.	Department of Health & Human Services (DHHS)		
42	Vitamin D	Bodies make vitamin D from sunlight, but this varies based on geography, skin color, air pollution, and other factors. Also, sunlight exposure needs to be limited to avoid risk of skin cancer. All children need vitamin D beginning shortly after birth. Vitamin D helps the immune system resist bacteria and viruses. Vitamin D is required for muscle and nerve functions.	Centers for Disease Control and Prevention (CDC)		<a href="https://www.cdc.gov/nutrition/features/micronutrient-facts.html">https://www.cdc.gov/nutrition/features/micronutrient-facts.html</a>
43	Vitamin D	Vitamin D builds strong bones by helping the body absorb calcium. This helps protect older adults from osteoporosis.	Centers for Disease Control and Prevention (CDC)		
44	Vitamin D	Vitamin D deficiency causes bone diseases, including rickets in children and osteomalacia in adults.	Centers for Disease Control and Prevention (CDC)		

45	Vitamin E	The body also needs vitamin E to boost its immune system so that it can fight off invading bacteria and viruses. It helps to widen blood vessels and keep blood from clotting within them. In addition, cells use vitamin E to interact with each other and to carry out many important functions.	Department of Health & Human Services (DHHS)	<a href="https://ods.od.nih.gov/factsheets/VitaminE-Consumer/">https://ods.od.nih.gov/factsheets/VitaminE-Consumer/</a> <a href="https://ods.od.nih.gov/factsheets/VitaminE-HealthProfessional/">https://ods.od.nih.gov/factsheets/VitaminE-HealthProfessional/</a>	15 mg adult men
46	Vitamin E		Department of Health & Human Services (DHHS)		
47	Vitamin E		Department of Health & Human Services (DHHS)		
48	Iodine	The body needs iodine to make thyroid hormones. These hormones control the body's metabolism and many other important functions. The body also needs thyroid hormones for proper bone and brain development during pregnancy and infancy.	Department of Health & Human Services (DHHS)	<a href="https://ods.od.nih.gov/factsheets/Iodine-Consumer/">https://ods.od.nih.gov/factsheets/Iodine-Consumer/</a> <a href="https://ods.od.nih.gov/factsheets/Iodine-HealthProfessional/">https://ods.od.nih.gov/factsheets/Iodine-HealthProfessional/</a>	150 mcg adult men
49	Iodine	Giving iodine supplements to children with mild iodine deficiency improves their reasoning abilities and overall cognitive function. In children living in iodine-deficient areas, iodine supplements seem to improve both physical and mental development.	Department of Health & Human Services (DHHS)		
50	Iodine	In pregnant women, severe iodine deficiency can permanently harm the fetus by causing stunted growth, intellectual disability, and delayed sexual development. Less severe iodine deficiency can cause lower-than-average IQ in infants and children and decrease adults' ability to work and think clearly. Goiter, an enlarged thyroid gland, is often the first visible sign of iodine deficiency.	Department of Health & Human Services (DHHS)		
51	Iron	Iron is a mineral that the body needs for growth and development.	Department of Health & Human Services (DHHS)	<a href="https://ods.od.nih.gov/factsheets/Iron-Consumer/">https://ods.od.nih.gov/factsheets/Iron-Consumer/</a> <a href="https://ods.od.nih.gov/factsheets/Iron-HealthProfessional/">https://ods.od.nih.gov/factsheets/Iron-HealthProfessional/</a>	8 mg adult male Pregnant women 27 mg
52	Iron	During pregnancy, the amount of blood in a woman's body increases, so she needs more iron for herself and her growing baby. Getting too little iron during pregnancy increases a woman's risk of iron deficiency	Department of Health & Human Services (DHHS)		

53	Iron	anemia and her infant's risk of low birth weight, premature birth, and low levels of iron.	Department of Health & Human Services (DHHS)		
54	Vitamin K	Severe vitamin K deficiency can cause bruising and bleeding problems because the blood will take longer to clot. Vitamin K deficiency might reduce bone strength and increase the risk of getting osteoporosis because the body needs vitamin K for healthy bones.	Department of Health & Human Services (DHHS)	<a href="https://ods.od.nih.gov/factsheets/VitaminK-Consumer/">https://ods.od.nih.gov/factsheets/VitaminK-Consumer/</a> <a href="https://ods.od.nih.gov/factsheets/vitaminK-HealthProfessional/">https://ods.od.nih.gov/factsheets/vitaminK-HealthProfessional/</a>	120 mcg adult men
55	Vitamin K				
56	Magnesium	People with higher amounts of magnesium in their diets tend to have a lower risk of developing type 2 diabetes. Magnesium helps the body break down sugars and might help reduce the risk of insulin resistance (a condition that leads to diabetes).  Magnesium is important for healthy bones. People with higher intakes of magnesium have a higher bone mineral density, which is important in reducing the risk of bone fractures and osteoporosis. Getting more magnesium from foods or dietary supplements might help older women improve their bone mineral density.	Department of Health & Human Services (DHHS)	<a href="https://ods.od.nih.gov/factsheets/Magnesium-Consumer/">https://ods.od.nih.gov/factsheets/Magnesium-Consumer/</a> <a href="https://ods.od.nih.gov/factsheets/Magnesium-HealthProfessional/">https://ods.od.nih.gov/factsheets/Magnesium-HealthProfessional/</a>	400 - 420 mg adult men
57	Magnesium		Department of Health & Human Services (DHHS)		
58	Magnesium		Department of Health & Human Services (DHHS)		
59	Magnesium		Department of Health & Human Services (DHHS)		
60	Magnesium		Department of Health & Human Services (DHHS)		
61	Magnesium	People who have migraine headaches sometimes have low levels of magnesium in their blood and other tissues. Several small studies found that magnesium supplements can modestly reduce the frequency of migraines.	Department of Health & Human Services (DHHS)		
62	Magnesium	Symptoms of magnesium deficiency include loss of appetite, nausea, vomiting, fatigue, and weakness. Extreme magnesium deficiency can cause	Department of Health & Human Services (DHHS)		

63	Magnesium	numbness, tingling, muscle cramps, seizures, personality changes, and an abnormal heart rhythm.	Department of Health & Human Services (DHHS)		
64	Magnesium		Department of Health & Human Services (DHHS)		
65	Magnesium		Department of Health & Human Services (DHHS)		
66	Magnesium		Department of Health & Human Services (DHHS)		
67	Manganese	A deficiency might cause the following symptoms: Weak bones and poor growth in children; Skin rashes and loss of hair color in men; Mood changes and worse premenstrual pain than normal in women	Department of Health & Human Services (DHHS)	<a href="https://ods.od.nih.gov/factsheets/Manganese-Consumer/">https://ods.od.nih.gov/factsheets/Manganese-Consumer/</a> <a href="https://ods.od.nih.gov/factsheets/Manganese-HealthProfessional/">https://ods.od.nih.gov/factsheets/Manganese-HealthProfessional/</a>	2.3 mg adult men
68	Manganese		Department of Health & Human Services (DHHS)		
69	Molybdenum	Your body uses molybdenum to process proteins and genetic material like DNA. Molybdenum also helps break down drugs and toxic substances that enter the body.	Department of Health & Human Services (DHHS)	<a href="https://ods.od.nih.gov/factsheets/Molybdenum-Consumer/">https://ods.od.nih.gov/factsheets/Molybdenum-Consumer/</a>	45 mcg adult men Pregnant teens & women 50 mcg
70	Multivitamin/ mineral Supplements	A specific combination of vitamins and minerals can slow down vision loss from age-related macular degeneration (AMD), an eye disease that can blur your central vision.	Department of Health & Human Services (DHHS)	<a href="https://ods.od.nih.gov/factsheets/MVMS-Consumer/">https://ods.od.nih.gov/factsheets/MVMS-Consumer/</a> <a href="https://ods.od.nih.gov/factsheets/MVMS-HealthProfessional/">https://ods.od.nih.gov/factsheets/MVMS-HealthProfessional/</a>	MVMS dosage is not standardized. It's product-specific and guided by the DV for each nutrient

71	Potassium	High blood pressure is a major risk factor for coronary heart disease and stroke. People with low intakes of potassium have an increased risk of developing high blood pressure, especially if their diet is high in salt (sodium). Increasing the amount of potassium in your diet and decreasing the amount of sodium might help lower your blood pressure and reduce your risk of stroke.	Department of Health & Human Services (DHHS)	<a href="https://ods.od.nih.gov/factsheets/Potassium-Consumer/">https://ods.od.nih.gov/factsheets/Potassium-Consumer/</a> <a href="https://ods.od.nih.gov/factsheets/Potassium-HealthProfessional/">https://ods.od.nih.gov/factsheets/Potassium-HealthProfessional/</a>	3400 mg adult men
72	Potassium		Department of Health & Human Services (DHHS)		
73	Potassium		Department of Health & Human Services (DHHS)		
74	Potassium		Department of Health & Human Services (DHHS)		
75	Zinc	It helps your immune system fight off invading bacteria and viruses. Your body also uses zinc to make DNA (the genetic material in cells) and proteins.	Department of Health & Human Services (DHHS)	<a href="https://ods.od.nih.gov/factsheets/Zinc-Consumer/">https://ods.od.nih.gov/factsheets/Zinc-Consumer/</a> <a href="https://ods.od.nih.gov/factsheets/Zinc-HealthProfessional/">https://ods.od.nih.gov/factsheets/Zinc-HealthProfessional/</a>	11 mg adult males
76	Zinc		Department of Health & Human Services (DHHS)		
77	Zinc		Department of Health & Human Services (DHHS)		
78	Zinc		Department of Health & Human Services (DHHS)		

79	Zinc	People with type 2 diabetes often have low zinc levels. Some research shows that zinc supplements might help lower blood sugar and cholesterol levels. However, more research is needed to learn if zinc might be recommended for people with type 2 diabetes. Zinc deficiency causes diarrhea, slow growth, and loss of appetite in infants and children. Infants and children who have had a zinc deficiency may have reproductive problems when they become adults. In older children, zinc deficiency also causes hair loss and frequent infections.	Department of Health & Human Services (DHHS)		
80	Zinc		Department of Health & Human Services (DHHS)		
81	Zinc		Department of Health & Human Services (DHHS)		
82	Vitamin B5/Pantothenic acid	Because of pantothenic acid's role in triglyceride synthesis and lipoprotein metabolism, experts have hypothesized that pantothenic acid supplementation might reduce lipid levels in patients with hyperlipidemia	Department of Health & Human Services (DHHS)	<a href="https://ods.od.nih.gov/factsheets/PantothenicAcid-HealthProfessional/">https://ods.od.nih.gov/factsheets/PantothenicAcid-HealthProfessional/</a>	5 mg Adults 7 mg Breastfeeding Teens & Women
83	Selenium	Selenium is important for reproduction, thyroid gland function, DNA production, and protecting the body from damage caused by free radicals and from infection.	Department of Health & Human Services (DHHS)	<a href="https://ods.od.nih.gov/factsheets/Selenium-Consumer/">https://ods.od.nih.gov/factsheets/Selenium-Consumer/</a> <a href="https://ods.od.nih.gov/factsheets/Selenium-HealthProfessional/">https://ods.od.nih.gov/factsheets/Selenium-HealthProfessional/</a>	55 mg adults
84	Selenium	<b>Thyroid</b> - Selenium concentration is higher in the thyroid gland than in any other organ in the body and, like iodine, selenium has important functions in thyroid hormone synthesis and metabolism	Department of Health & Human Services (DHHS)		
85	Selenium	<b>Cognitive decline &amp; Alzheimer's</b> - higher selenium intakes might reduce the risk of cognitive decline.	Department of Health & Human Services (DHHS)		
86	Selenium	<b>Keshan Disease</b> - A 2018 systematic review and meta-analysis of 41 studies found that selenium supplements (doses not indicated) reduce the risk of Keshan Disease by 86%	Department of Health & Human Services (DHHS)		
87	Selenium	<b>Cardiovascular disease</b> - Selenoproteins help reduce inflammation and prevent lipid oxidation and platelet aggregation	Department of Health & Human Services (DHHS)		

88	Alfafa ( <i>Medicago sativa</i> )	Alfafa might lower blood sugar levels. Taking alfalfa along with diabetes medications might cause blood sugar to drop too low. Monitor your blood sugar closely.	National Institutes of Health	<a href="https://medlineplus.gov/druginfo/natural/19.html">https://medlineplus.gov/druginfo/natural/19.html</a>	5-10 g TID dried herb (15-30g/day total)
89	American ginseng ( <i>Panax quinquefolius</i> )	American ginseng might lower blood sugar levels. Taking American ginseng along with diabetes medications might cause blood sugar to drop too low. Monitor your blood sugar closely.	Department of Health & Human Services (DHHS)	<a href="https://medlineplus.gov/druginfo/natural/967.html">https://medlineplus.gov/druginfo/natural/967.html</a>	Doses of 100-3000 mg daily have been used safely for up to 12 weeks
90	Ashwagandha ( <i>Withania somnifera</i> )	The species name somnifera comes from the Latin word for sleep inducing, signifying another purported property of this botanical	Department of Health & Human Services (DHHS)	<a href="https://ods.od.nih.gov/factsheets/Ashwagandha-HealthProfessional/">https://ods.od.nih.gov/factsheets/Ashwagandha-HealthProfessional/</a>	Daily doses fall between 120 mg and 600 mg, most commonly standardized to 5% withanolides
91	Astragalus ( <i>Astragalus membranaceus</i> )	Taking astragalus may be associated with a lower risk of upper respiratory tract infections in children with nephrotic syndrome than prednisone treatment alone.	Department of Health & Human Services (DHHS)	<a href="https://www.nccih.nih.gov/health/astragalus">https://www.nccih.nih.gov/health/astragalus</a>	Up to 60 g daily
92	Bromelain (from pineapple. <i>Ananas comosus</i> )	A small number of studies have been done on the use of bromelain taken orally (by mouth) for reducing symptoms of sinusitis and reducing pain and swelling after wisdom tooth extraction.	Department of Health & Human Services (DHHS)	<a href="https://www.nccih.nih.gov/health/bromelain">https://www.nccih.nih.gov/health/bromelain</a>	900-1000 mg/day
93	Chamomile ( <i>Matricaria recutita</i> , <i>Chamomilla recutita</i> )	Some preliminary studies suggest that a chamomile dietary supplement might be helpful for generalized anxiety disorder and associated depression.	Department of Health & Human Services (DHHS)	<a href="https://www.nccih.nih.gov/health/chamomile">https://www.nccih.nih.gov/health/chamomile</a>	Up to 15 g of dried chamomile flowers per day; at least 200 mg (up to 1,500 mg) of chamomile extract per day
94	Chamomile ( <i>Matricaria recutita</i> , <i>Chamomilla recutita</i> )	Some research has found that products containing certain combinations of herbs that include chamomile may be of benefit for diarrhea in children and for infants with colic.	Department of Health & Human Services (DHHS)		
95	Clove ( <i>Syzygium aromaticum</i> )	Pneumonia in people on breathing machines in the hospital. Use of a clove mouthwash might prevent pneumonia in people on breathing machines in the hospital.	Department of Health & Human Services (DHHS)	<a href="https://medlineplus.gov/druginfo/natural/251.html">https://medlineplus.gov/druginfo/natural/251.html</a>	3 drops of clove essential oil per day

96	Cranberry ( <i>Vaccinium macrocarpon</i> )	In general, cranberry products may decrease the overall risk of symptomatic, recurrent UTIs in women by 25 percent, and in some cases, by more than 30 percent.	Department of Health & Human Services (DHHS)	<a href="https://www.nccih.nih.gov/health/cranberry">https://www.nccih.nih.gov/health/cranberry</a>	120 mg to 1,600 mg per day of cranberry extract; 300 mL – 900 mL of cranberry juice daily
97	Elderberry ( <i>Sambucus nigra</i> )	Some preliminary research suggests that elderberry may relieve symptoms of flu, colds, or other upper respiratory infections.	Department of Health & Human Services (DHHS)	<a href="https://www.nccih.nih.gov/health/elderberry">https://www.nccih.nih.gov/health/elderberry</a>	15 mL syrup 4 times daily for 5 days; lozenges containing 175 mg elderberry extract, 4 times daily for 2 days
98	Flaxseed ( <i>Linum usitatissimum</i> )	In pregnant people with gestational diabetes, some research suggests that flaxseed oil supplements containing ALA might improve fasting measures and insulin resistance.	National Institutes of Health	<a href="https://www.nccih.nih.gov/health/flaxseed-and-flaxseed-oil">https://www.nccih.nih.gov/health/flaxseed-and-flaxseed-oil</a>	Up to 90 g per day of flaxseed meal
99	Garlic ( <i>Allium sativum</i> )	Garlic supplements may reduce levels of total cholesterol and low-density lipoprotein (LDL) cholesterol to a small extent in people who have high blood cholesterol levels.	Department of Health & Human Services (DHHS)	<a href="https://www.nccih.nih.gov/health/garlic">https://www.nccih.nih.gov/health/garlic</a>	300 mg to 2,400 mg of garlic powder per day; 2.6g of aged garlic daily
100	Ginger ( <i>Zingiber officinale</i> )	Research shows that ginger may be helpful for nausea and vomiting associated with pregnancy.	Department of Health & Human Services (DHHS)	<a href="https://www.nccih.nih.gov/health/ginger">https://www.nccih.nih.gov/health/ginger</a>	1g for four days in pregnancy for nausea
101	Ginkgo ( <i>Ginkgo biloba</i> )	Ginkgo extract may have a modest benefit for dementia symptoms, particularly at relatively high doses, but the evidence is inconsistent	Department of Health & Human Services (DHHS)	<a href="https://www.nccih.nih.gov/health/ginkgo">https://www.nccih.nih.gov/health/ginkgo</a>	120 – 240 mg standardized extract daily (usually split into 2 or 3 divided doses)

102	Asian Ginseng ( <i>Panax ginseng</i> )	A 2022 review of 20 studies (1,295 participants) found that Asian ginseng improved many cardiometabolic factors in people with prediabetes and diabetes, including fasting blood glucose levels, total cholesterol, and certain inflammatory markers.	Department of Health & Human Services (DHHS)	<a href="https://www.nccih.nih.gov/health/asian-ginseng">https://www.nccih.nih.gov/health/asian-ginseng</a>	3000 mg/day dried root powder; 200 mg/day of standardized extract
103	Asian Ginseng ( <i>Panax ginseng</i> )	Some research shows that taking oral Asian ginseng seems to improve sexual function in people with erectile dysfunction (ED). Asian ginseng has also been studied in adults with symptoms of ED associated with an enlarged prostate, and one small study suggested it may improve some aspects of sexual function.	Department of Health & Human Services (DHHS)		
104	Grape ( <i>Vitis</i> spp.)	The whole fruit, skin, leaves, and seed of grape are used as medicine. Grape contains flavonoids, which can have antioxidant effects. They might help prevent heart disease and have other beneficial effects.	Department of Health & Human Services (DHHS)	<a href="https://medlineplus.gov/druginfo/natural/472.html">https://medlineplus.gov/druginfo/natural/472.html</a>	300 mg/day for 4 months
105	Grape ( <i>Vitis</i> spp.)	Poor circulation that can cause the legs to swell (chronic venous insufficiency or CVI). Taking grape seed extract or proanthocyanidin, a chemical in grape seeds, by mouth seems to reduce symptoms of CVI such as tired or heavy legs and pain.	Department of Health & Human Services (DHHS)		
106	Green Coffee ( <i>Coffea</i> spp.) Bean	Inhibits fat accumulation, modulates glucose metabolism	DOD	<a href="https://ods.od.nih.gov/factsheets/WeightLoss-HealthProfessional/">https://ods.od.nih.gov/factsheets/WeightLoss-HealthProfessional/</a>	Few safety concerns reported for up to 200 mg/day for as long as 12 weeks
107	Green Tea ( <i>Camellia sinensis</i> )	The effect of green tea on blood cholesterol levels has been tested in studies in which people were randomly assigned to consume either a green tea product or a placebo. Most of the studies evaluated green tea extract supplements rather than green tea as a beverage. Green tea reduced total cholesterol and low-density lipoprotein (LDL) cholesterol to a small extent, but it did not affect high-density lipoprotein (HDL) cholesterol or triglycerides.	Department of Health & Human Services (DHHS)	<a href="https://www.nccih.nih.gov/health/green-tea">https://www.nccih.nih.gov/health/green-tea</a>	10 cups of tea daily
108	Hibiscus ( <i>Hibiscus sabdariffa</i> )	As a tea, it may be beneficial for high blood pressure.	Department of Health & Human Services (DHHS)	<a href="https://medlineplus.gov/druginfo/natural/211.html">https://medlineplus.gov/druginfo/natural/211.html</a>	Safe in amounts of up to 720 mL daily for up to 6 weeks

109	Hibiscus ( <i>Hibiscus sabdariffa</i> )	The fruit acids in Hibiscus sabdariffa might work like a laxative. Other chemicals in Hibiscus sabdariffa might be able to lower blood pressure, reduce levels of sugar and fats in the blood, reduce swelling, and work like antibiotics.	Department of Health & Human Services (DHHS)		
110	Hibiscus ( <i>Hibiscus sabdariffa</i> )	High blood pressure. Drinking Hibiscus sabdariffa tea or taking Hibiscus sabdariffa extract by mouth seems to lower blood pressure by a small amount in people with normal or high blood pressure.	Department of Health & Human Services (DHHS)		
111	Horsetail ( <i>Equisetum arvense</i> )	People use horsetail for fluid retention, urinary tract infections (UTIs), osteoporosis, loss of bladder control, and many other conditions	Department of Health & Human Services (DHHS)	<a href="https://medlineplus.gov/druginfo/natural/843.html">https://medlineplus.gov/druginfo/natural/843.html</a>	No established standard dosage
112	Lavender ( <i>Lavandula angustifolia</i> )	One preliminary study with seventy-two postmenopausal women aged 50-65 years suggested that a lavender oil product, taken orally, might offer some relief for menopause-related sexual dysfunction	Department of Health & Human Services (DHHS)	<a href="https://www.nccih.nih.gov/health/lavender">https://www.nccih.nih.gov/health/lavender</a>	No standardized dosage range
113	Oregano ( <i>Origanum vulgare</i> )	Oregano contains chemicals that might help reduce cough. Oregano also might help with digestion and with fighting against some bacteria and viruses.	Department of Health & Human Services (DHHS)	<a href="https://medlineplus.gov/druginfo/natural/644.html">https://medlineplus.gov/druginfo/natural/644.html</a>	Appropriate doses of oregano have not been set for any condition
114	Peppermint ( <i>Mentha x piperita</i> )	A small amount of research suggests that peppermint oil in enteric-coated capsules may improve IBS symptoms in adults.	Department of Health & Human Services (DHHS)	<a href="https://www.nccih.nih.gov/health/peppermint-oil">https://www.nccih.nih.gov/health/peppermint-oil</a>	180-225 mg per dose, up to three times daily
115	Rose ( <i>Rosa</i> spp.) Hip	Osteoarthritis. Taking rose hip by mouth, alone or with other natural medicines, can reduce pain and stiffness and improve function in people with osteoarthritis.	Department of Health & Human Services (DHHS)	<a href="https://medlineplus.gov/druginfo/natural/839.html">https://medlineplus.gov/druginfo/natural/839.html</a>	Doses of up to 5 grams by mouth daily for up to 12 weeks
116	Spearmint ( <i>Mentha spicata</i> )	Spearmint oil contains chemicals that reduce swelling and affect hormone levels in the body, including testosterone. Some chemicals might also harm cancer cells and kill bacteria.	Department of Health & Human Services (DHHS)	<a href="https://medlineplus.gov/druginfo/natural/845.html">https://medlineplus.gov/druginfo/natural/845.html</a>	Up to 900 mg by mouth daily for up to 90 days- Adult

117	Turmeric ( <i>Curcuma longa</i> )	Several meta-analyses have evaluated oral turmeric or curcumin for osteoarthritis measures related to relieving knee pain and stiffness, increasing the strength of the joints, improving joint mobility, and other functions. The initial evidence is positive; higher-quality evidence is needed to reach definitive conclusions, and more research is needed to understand the impact of bioavailability on curcumin's effects.	Department of Health & Human Services (DHHS)	<a href="https://www.nccih.nih.gov/health/turmeric">https://www.nccih.nih.gov/health/turmeric</a>	Studies are for curcumin only
118	Omega-3 fatty acids	The eicosanoids made from omega-6s are generally more potent mediators of inflammation, vasoconstriction, and platelet aggregation than those made from omega-3s, although there are some exceptions [3,7]. Because both classes of fatty acids compete for the same desaturation enzymes, ALA is a competitive inhibitor of linoleic acid metabolism and vice versa [8]. Similarly, EPA and DHA can compete with arachidonic acid for the synthesis of eicosanoids. Thus, higher concentrations of EPA and DHA than arachidonic acid tip the eicosanoid balance toward less inflammatory activity [9].	Department of Health & Human Services (DHHS)	<a href="https://ods.od.nih.gov/factsheets/Omega3FattyAcids-HealthProfessional/">https://ods.od.nih.gov/factsheets/Omega3FattyAcids-HealthProfessional/</a>	1.6 g/day adults
119	Omega-3 fatty acids	Some researchers propose that the relative intakes of omega-6s and omega-3s—the omega-6/omega-3 ratio—may have important implications for the pathogenesis of many chronic diseases, such as cardiovascular disease (CVD) and cancer [8].	Department of Health & Human Services (DHHS)		
120	Blue-green algae	High blood pressure. Taking blue-green algae by mouth seems to reduce blood pressure in some people with high blood pressure.	Department of Health & Human Services (DHHS)	<a href="https://medlineplus.gov/druginfo/natural/923.html">https://medlineplus.gov/druginfo/natural/923.html</a>	1-10 grams by mouth daily for up to 6 months-Adults.
121	Blue-green algae	High blood pressure. Taking blue-green algae by mouth seems to reduce blood pressure in some people with high blood pressure.	Department of Health & Human Services (DHHS)		Doses up to 19 g daily have been used safely for up to 2 months.
122	Fiber	Lowering postprandial blood glucose and/or insulin	FDA		

123	Fiber	Lowering fasting LDL-cholesterol or fasting blood glucose	FDA	<a href="https://www.fda.gov/food/nutrition-food-labeling-and-critical-foods/questions-and-answers-dietary-fiber#beneficial_physiological_effects">https://www.fda.gov/food/nutrition-food-labeling-and-critical-foods/questions-and-answers-dietary-fiber#beneficial_physiological_effects</a>	3 grams or more per day of beta-glucan soluble fiber from oats or barley. 7 grams or more per day of soluble fiber from psyllium seed husks
124	Fiber	Lowering blood pressure	FDA		
125	Fiber	Increased frequency of bowel movements (improved laxation)	FDA		

## **EXHIBIT 3**

Commercial petitioners of each  
numbered, proposed health claim

Health Claim No	Substance(s)	Commercial Petitioner
1	Vitamin A and Carotenoids	Sanacor International, Inc. and Evolution Nutraceuticals, Inc. dba Cardio Miracle
2	Vitamin A and Carotenoids	
3	Vitamin A and Carotenoids	
4	Vitamin A and Carotenoids	Sanacor International, Inc. and Evolution Nutraceuticals, Inc. dba Cardio Miracle
5	Boron	Living Fuel International, Inc.
6	Boron	
7	Boron	
8	Boron	
9	Vitamin B1/Thiamin	Sanacor International, Inc. and Evolution Nutraceuticals, Inc. dba Cardio Miracle
10	Vitamin B2/Riboflavin	Sanacor International, Inc. and Evolution Nutraceuticals, Inc. dba Cardio Miracle
11	Vitamin B2/Riboflavin	
12	Niacin	Sanacor International, Inc. and Evolution Nutraceuticals, Inc. dba Cardio Miracle
13	Vitamin B12/Cobalamin	Sanacor International, Inc. and Evolution Nutraceuticals, Inc. dba Cardio Miracle
14	Vitamin B12/Cobalamin	
15	Vitamin B12/Cobalamin	
16	Vitamin B12/Cobalamin	
17	Vitamin B12/Cobalamin	
18	Vitamin B12/Cobalamin	
19	Chromium	Living Fuel International, Inc.
20	Chromium	
21	Chromium	
22	Chromium	
23	Vitamin B6	Sanacor International, Inc. and Evolution Nutraceuticals, Inc. dba Cardio Miracle
24	Vitamin B6	
25	Vitamin B6	

26	Vitamin B9/Folate	Sanacor International, Inc. and Evolution Nutraceuticals, Inc. dba Cardio Miracle
27	Vitamin B9/Folate	
28	Vitamin B9/Folate	
29	Vitamin B9/Folate	
30	Calcium	Living Fuel International, Inc.
31	Calcium	
32	Calcium	
33	Choline	Living Fuel International, Inc.
34	Copper	Living Fuel International, Inc.
35	Vitamin C	Sanacor International, Inc. and Evolution Nutraceuticals, Inc. dba Cardio Miracle
36	Vitamin C	
37	Vitamin C	
38	Vitamin D	Sanacor International, Inc. and Evolution Nutraceuticals, Inc. dba Cardio Miracle
39	Vitamin D	
40	Vitamin D	
41	Vitamin D	
42	Vitamin D	
43	Vitamin D	
44	Vitamin D	
45	Vitamin E	Sanacor International, Inc. and Evolution Nutraceuticals, Inc. dba Cardio Miracle
46	Vitamin E	
47	Vitamin E	
48	Iodine	Health Ranger Store, Inc.
49	Iodine	
50	Iodine	
51	Iron	Living Fuel International, Inc.
52	Iron	
53	Iron	
54	Vitamin K	Sanacor International, Inc. and Evolution Nutraceuticals, Inc. dba Cardio Miracle
55	Vitamin K	

56	Magnesium	Sanacor International, Inc. and Evolution Nutraceuticals, Inc. dba Cardio Miracle	
57	Magnesium		
58	Magnesium		
59	Magnesium		
60	Magnesium		
61	Magnesium		
62	Magnesium		
63	Magnesium		
64	Magnesium		
65	Magnesium		
66	Magnesium		
67	Manganese		Living Fuel International, Inc.
68	Manganese		
69	Molybdenum	Living Fuel International, Inc.	
70	Multivitamin/mineral Supplements	Health Ranger Store, Inc.	
71	Potassium	Living Fuel International, Inc.	
72	Potassium		
73	Potassium		
74	Potassium		
75	Zinc	Sanacor International, Inc. and Evolution Nutraceuticals, Inc. dba Cardio Miracle	
76	Zinc		
77	Zinc		
78	Zinc		
79	Zinc		
80	Zinc		
81	Zinc		
82	Vitamin B5/Pantothenic acid	Sanacor International, Inc. and Evolution Nutraceuticals, Inc. dba Cardio Miracle	
83	Selenium	Sanacor International, Inc. and Evolution Nutraceuticals, Inc. dba Cardio Miracle	
84	Selenium		
85	Selenium		

86	Selenium	
87	Selenium	
88	Alfafa ( <i>Medicago sativa</i> )	Health Ranger Store, Inc.
89	American ginseng ( <i>Panax quinquefolius</i> )	Sanacor International, Inc. and Evolution Nutraceuticals, Inc. dba Cardio Miracle
90	Ashwagandha ( <i>Withania somnifera</i> )	Health Ranger Store, Inc.
91	Astragalus ( <i>Astragalus membranaceus</i> )	Living Fuel International, Inc.
92	Bromelain (from pineapple. <i>Ananas comosus</i> )	Health Ranger Store, Inc.
93	Chamomile ( <i>Matricaria recutita</i> , <i>Chamomilla recutita</i> )	Health Ranger Store, Inc.
94	Chamomile ( <i>Matricaria recutita</i> , <i>Chamomilla recutita</i> )	
95	Clove ( <i>Syzygium aromaticum</i> )	Health Ranger Store, Inc.
96	Cranberry ( <i>Vaccinium macrocarpon</i> )	Sanacor International, Inc. and Evolution Nutraceuticals, Inc. dba Cardio Miracle
97	Elderberry ( <i>Sambucus nigra</i> )	Health Ranger Store, Inc.
98	Flaxseed ( <i>Linum usitatissimum</i> )	Health Ranger Store, Inc.
99	Garlic ( <i>Allium sativum</i> )	Health Ranger Store, Inc.
100	Ginger ( <i>Zingiber officinale</i> )	Living Fuel International, Inc.
101	Ginkgo ( <i>Ginkgo biloba</i> )	Health Ranger Store, Inc.
102	Asian Ginseng ( <i>Panax ginseng</i> )	Health Ranger Store, Inc.
103	Asian Ginseng ( <i>Panax ginseng</i> )	
104	Grape ( <i>Vitis</i> spp.)	Living Fuel International, Inc.
105	Grape ( <i>Vitis</i> spp.)	
106	Green Coffee ( <i>Coffea</i> spp.) Bean	Living Fuel International, Inc.
107	Green Tea ( <i>Camellia sinensis</i> )	Living Fuel International, Inc.
108	Hibiscus ( <i>Hibiscus sabdariffa</i> )	Health Ranger Store, Inc.
109	Hibiscus ( <i>Hibiscus sabdariffa</i> )	
110	Hibiscus ( <i>Hibiscus sabdariffa</i> )	
111	Horsetail ( <i>Aesculus hippocastanum</i> )	Health Ranger Store, Inc.
112	Lavender ( <i>Lavandula angustifolia</i> )	Health Ranger Store, Inc.

113	Oregano ( <i>Origanum vulgare</i> )	Health Ranger Store, Inc.
114	Peppermint ( <i>Mentha x piperita</i> )	Health Ranger Store, Inc.
115	Rose Hip ( <i>Rosa</i> spp.)	Health Ranger Store, Inc.
116	Spearmint ( <i>Mentha spicata</i> )	Health Ranger Store, Inc.
117	Turmeric ( <i>Curcuma longa</i> )	Sanacor International, Inc. and Evolution Nutraceuticals, Inc. dba Cardio Miracle
118	Omega-3 fatty acids	Living Fuel International, Inc.
119	Omega-3 fatty acids	
120	Blue-green algae	Living Fuel International, Inc.
121	Blue-green algae	Living Fuel International, Inc.
122	Fiber	Living Fuel International, Inc.
123	Fiber	
124	Fiber	
125	Fiber	

# ABOUT THE ALLIANCE FOR NATURAL HEALTH

The **Alliance for Natural Health USA (ANH-USA)** is a leading nonprofit dedicated to defending the right of all Americans to access natural, sustainable, and regenerative approaches to health—supporting people, communities, and the planet. Working closely with its sister organizations, **ANH International** and **ANH Europe**, ANH represents the largest coordinated voice worldwide advocating for safe, effective, and innovative natural health options.

Founded in 1992 as the **American Preventive Medical Association** in response to FDA raids on integrative physicians, the organization evolved into the **American Association for Health Freedom** in 2002, and in 2009 became the Alliance for Natural Health USA. Over three decades, ANH has built a record of legal and policy leadership, including six successful constitutional challenges against the FDA led by constitutional attorney **Jonathan W. Emord, J.D.**, who now serves as ANH-USA's General Counsel.

Under the scientific and strategic leadership of **Robert Verkerk, Ph.D.**, ANH champions health systems that prioritize **empowered self-care, prevention, and upstream regenerative solutions**—in contrast to drug-centric models that are proving unsustainable against the rising burden of chronic, preventable disease, autoimmune disorders, and aging populations.

ANH-USA uniquely unites **consumers, practitioners, and the natural health community** to speak with a single, independent, and non-partisan voice on Capitol Hill. With a grassroots network of more than **500,000 active supporters**, ANH has the ability to mobilize constituents across the nation to influence Congress and federal agencies. Unlike manufacturer trade groups, ANH remains free from vested or conflicted interests, allowing it to work in coalition with nonprofits, professional associations, and ethical companies on shared priorities while retaining full independence.

ANH-USA works in close alignment with **ANH International**, founded in 2002 by Dr. Verkerk, which continues to lead efforts to protect access to natural health across Europe and worldwide. In April 2023, Dr. Verkerk was appointed Executive and Scientific Director of ANH-USA, and now provides overall leadership of ANH's three regional offices.

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