



FAKE FOOD, CHILDREN, AND THE PATH TO AUTOIMMUNITY

Michelle Perro, MD, DHom
CEO, www.gmoscience.org
October 2025

What's Making Our Children **SICK?**

How Industrial Food Is Causing an
Epidemic of Chronic Illness,
and What Parents (and Doctors)
Can Do About It

EXPLORING THE LINKS BETWEEN
GM FOODS, GLYPHOSATE, AND GUT HEALTH

Michelle Perro, MD *and*
Vincanne Adams, PhD

Agenda

- Overview of rising autoimmune disorders in children
- Defining 'fake food'
- Nutritional deficiencies, harmful additives, and contaminants
- Impacts on children's health
- Solutions and strategies
- Call to action

The epidemiology of inflammatory bowel disease: Clues to pathogenesis?

- Increased over past 50 years
- Prevalence ~ 1 in 1,300 children
- 25% present before 20 y/o
- Strong role of environmental factors
- Diet linked to intestinal inflammation
- Not likely a single disease, but a group of disorders - final common pathway inability to resolve inflammation
- Dysbiosis a major factor - decreased butyrate producers

MINI REVIEW article

Front. Pediatr., 16 January 2023

Sec. Pediatric Gastroenterology, Hepatology and Nutrition

Volume 10 - 2022 |

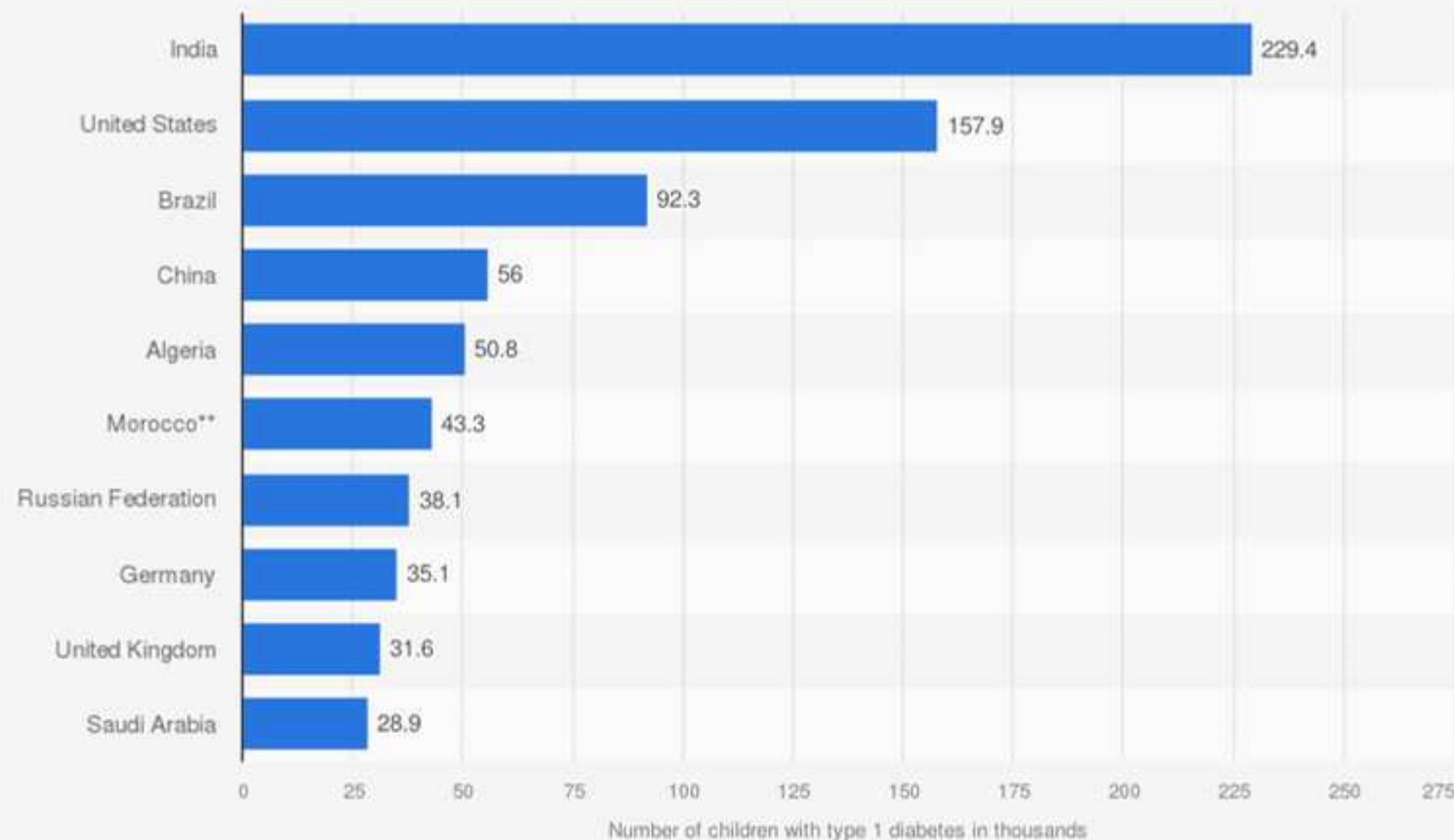
<https://doi.org/10.3389/fped.2022.1103713>

**Then
and
Now**



Type 1 Diabetes

Countries with highest number of children and adolescents aged 0 to 19 years with type 1 diabetes in 2021 (in thousands)*



Source:
International Diabetes Federation
© Statista 2024

Additional Information:
Worldwide; 0-19 years

- Type 1 DM 1.9 per 1,000 kids in the US
- 3-4% annual increase over the last 3 decades
- ~ 18K children diagnosed annually
- Genetic + dysbiosis + environmental causes; decreased butyrate producers

Changing Pattern of Childhood Celiac Disease Epidemiology: Contributing Factors

Alina Popp^{1,2†} Markku Mäki^{1*†}

- 1 in 100 children globally
- Autoimmunity in genetically susceptible individuals from gluten ingestion rising, esp. 6-10 y/o
- Dysbiosis (before disease onset of disease) + genetics + environmental factors

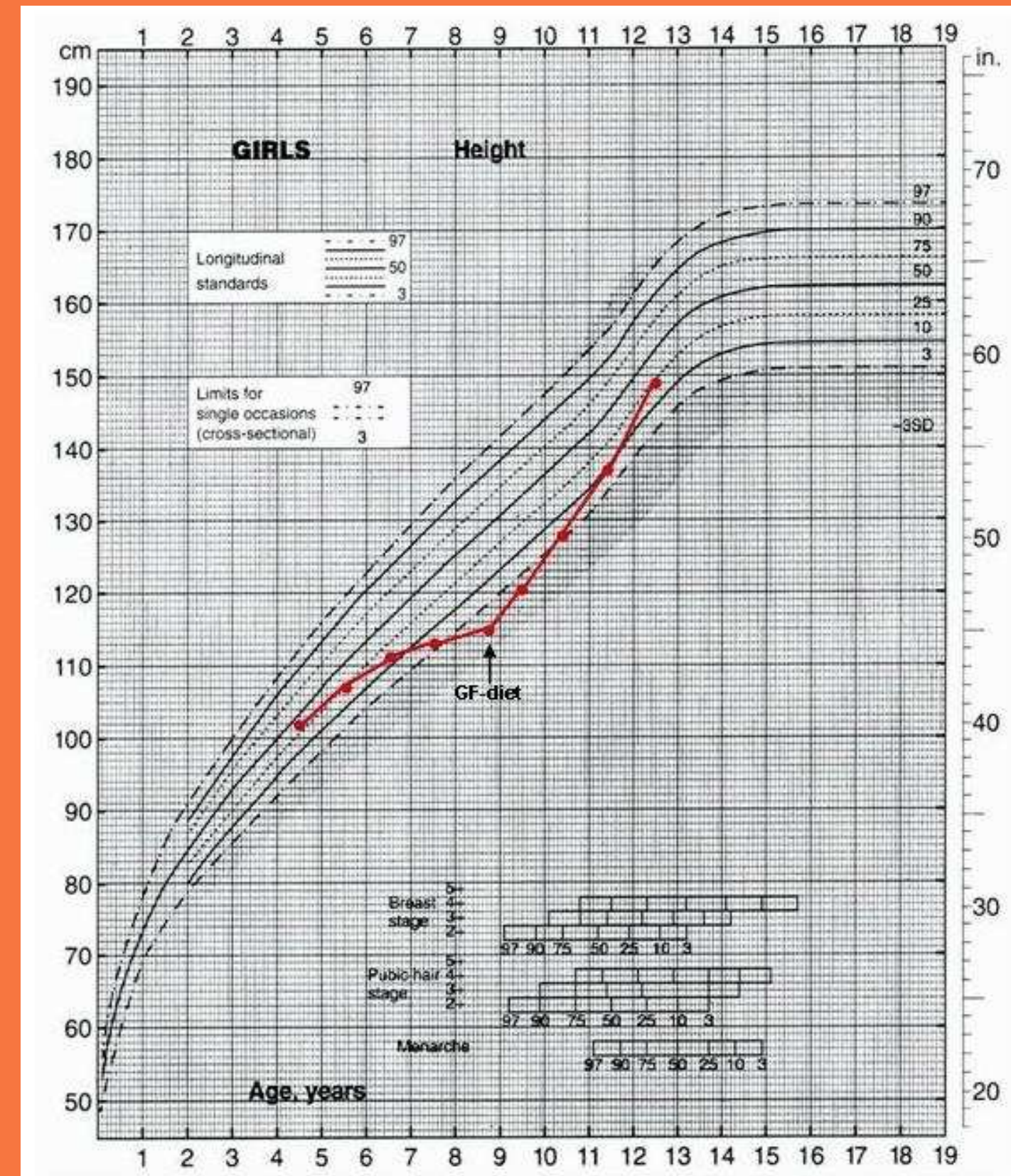
REVIEW article

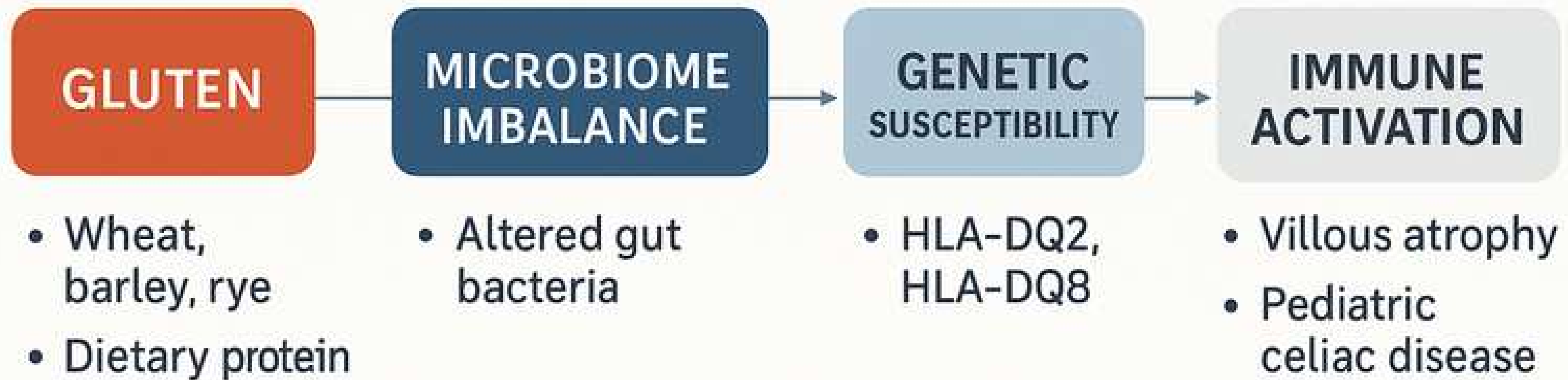
Front. Pediatr., 28 August 2019

Sec. Pediatric Gastroenterology, Hepatology and Nutrition

Volume 7 - 2019 |

<https://doi.org/10.3389/fped.2019.00357>





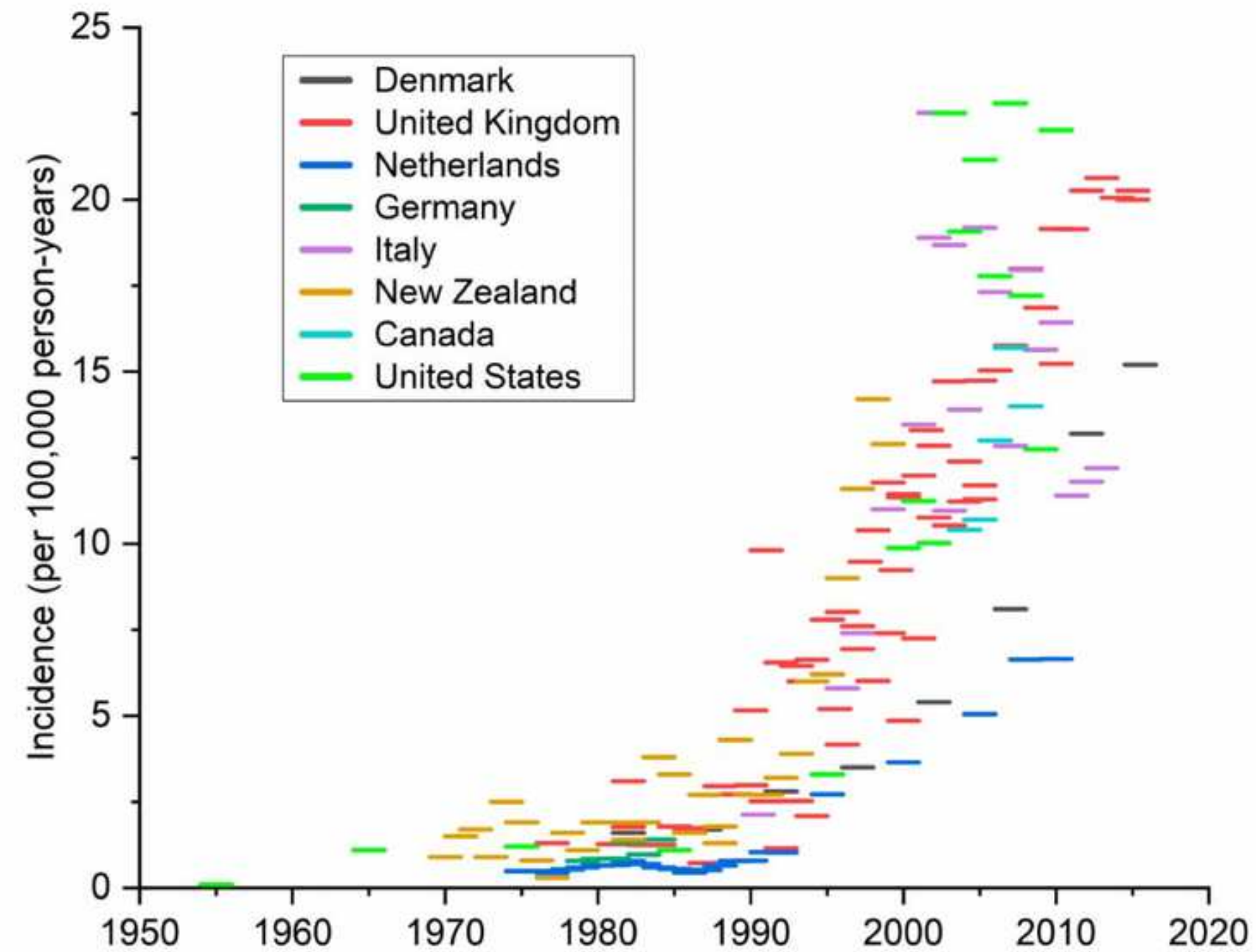
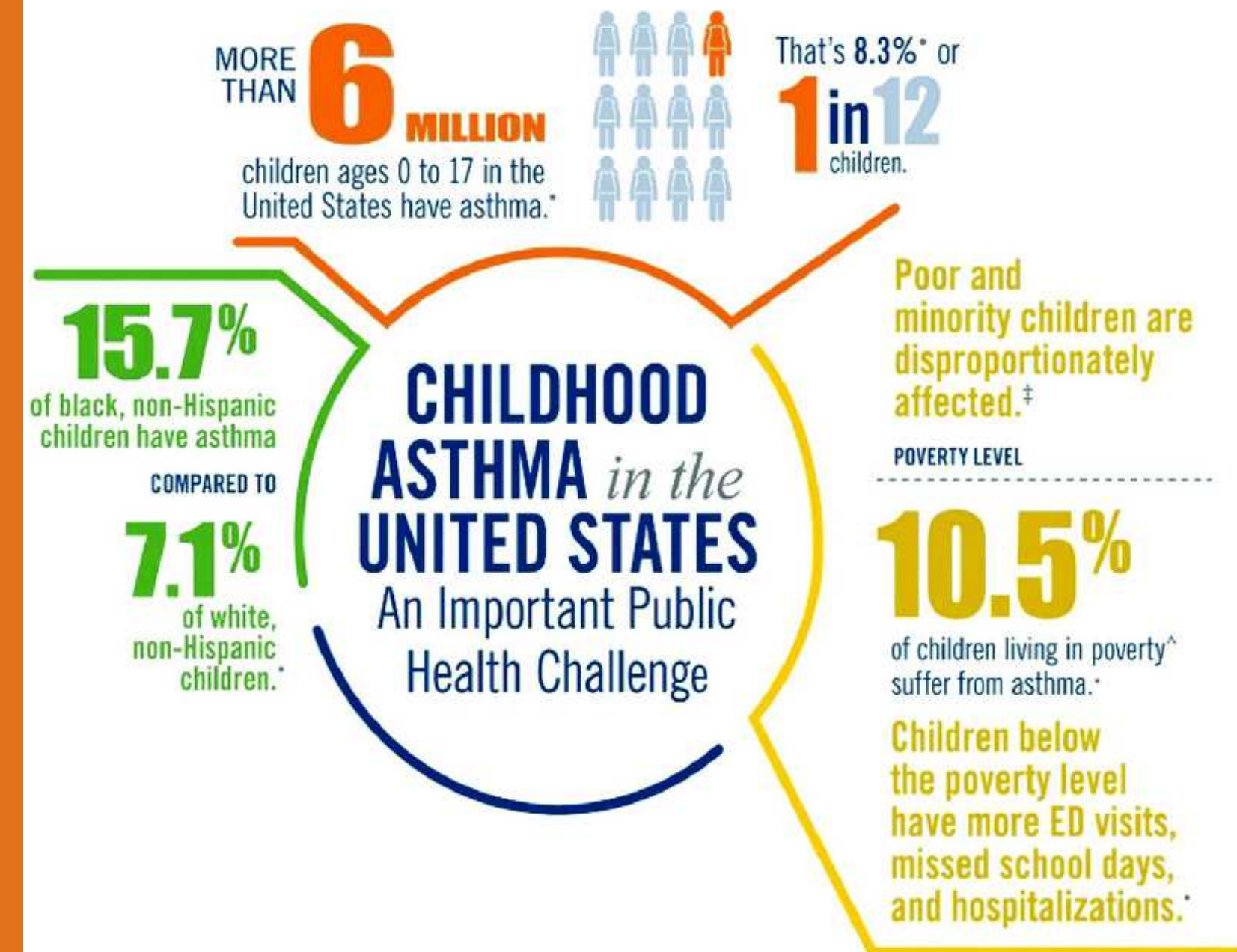


Figure 5. Trends in the incidence of celiac disease over time among all ages, by country.

Asthma and Autoimmunity?

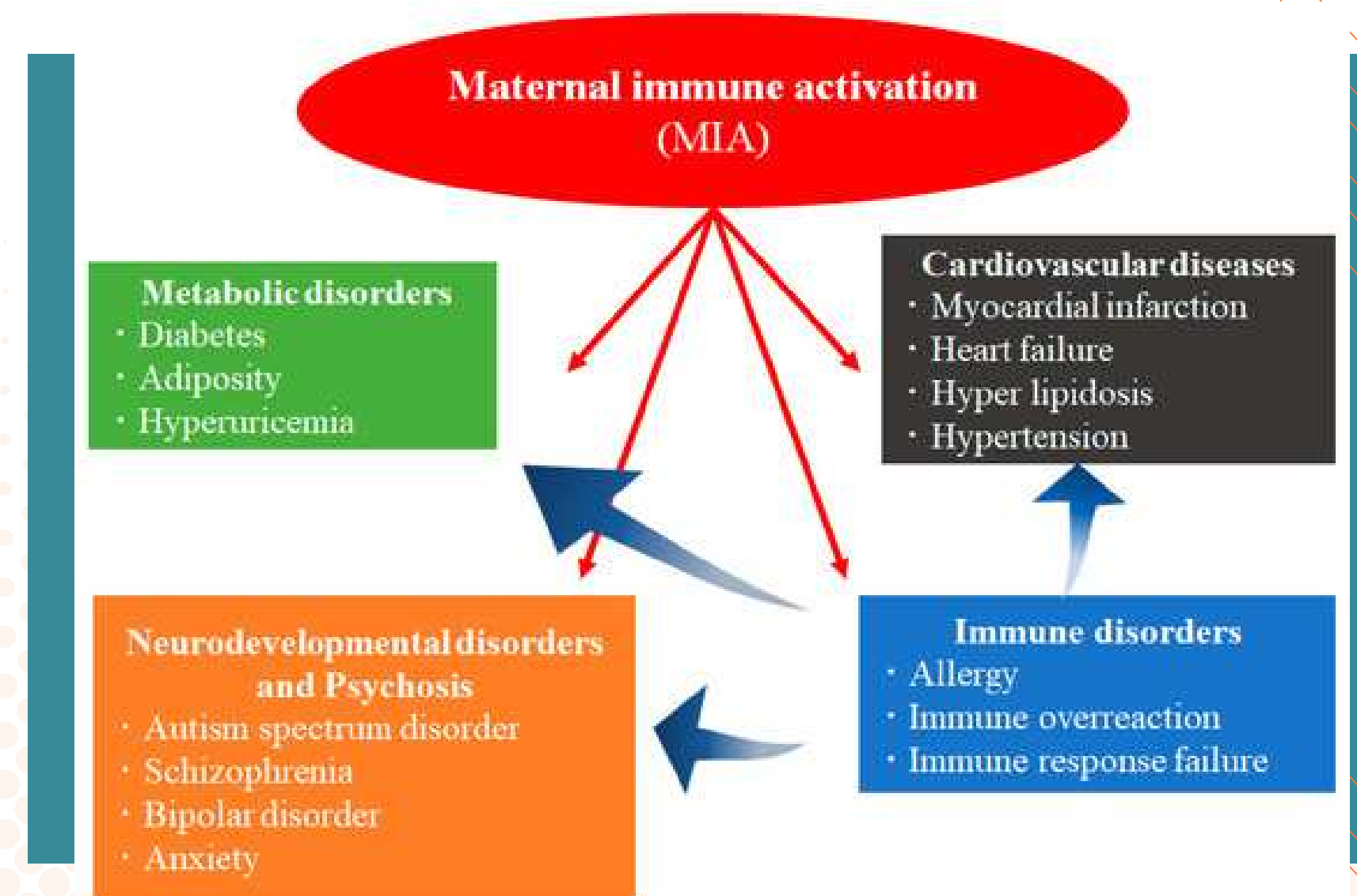
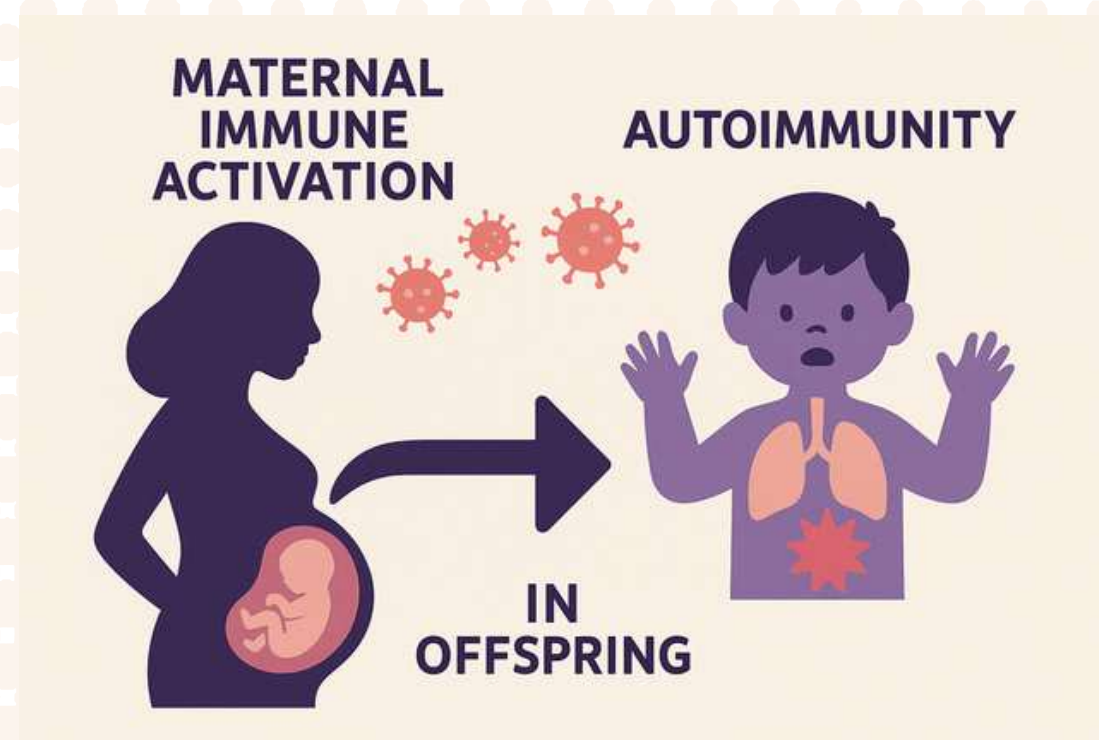
Abstract

The last decade has witnessed a growing interest in autoinflammation, which is related to an increase in knowledge about the immunopathogenesis of a broad spectrum of diseases, not only of immunological but also of allergic/inflammatory nature, such as asthma. Contrary to the belief that asthma and autoimmune diseases have little to share, a growing body of research supports autoimmune mechanisms underpinning disease severity in a subset of asthmatics, particularly severe asthmatics. Existing evidence suggests a plausible theory of breach of tolerance in asthma patients. The presence of autoantibodies as a hallmark of autoinflammation and the development of autoimmunity (clinical manifestations caused by autoantibody-mediated inflammation) in asthma are parts of a spectrum of immunological phenomena, following the pattern that innate and adaptive immune responses constitute the immunological continuum. Besides, cutting-edge molecular techniques have revealed common genetic variants between asthma and the wide spectrum of autoimmune diseases.



All autoimmune diseases in children are rising in incidence

- Juvenile Idiopathic Arthritis
- Autoimmune Hypothyroidism (Hashimoto's Thyroiditis)
- Autoimmune Hyperthyroidism (Graves' Disease)
- Lupus
- IBD/Celiac
- Type I DM
- PANS/PANDAS
- Autism Spectrum Disorder
- Maternal Immune Activation (MIA)



<https://www.mdpi.com/2073-4409/12/5/741>



Underlying Factors Across Childhood Autoimmune & Immune-Mediated Diseases:

IBD • Type 1 Diabetes • Celiac Disease • Asthma (Asthma Spectrum Disorder) • PANS/PANDAS)

- Gut barrier dysfunction and loss of mucosal integrity
- Dysbiosis: depletion of beneficial bacterial and SCFA producers (butyrate)
- Subsequent immune dysregulation and molecular mimicry
- Dietary triggers
- Nutritional deficiencies
- Neuro-immune/Gut-brain-microbiome axis/gut-lung microbiome axis cross-talk
- Genetic susceptibility

A genetically susceptible child + environmental and dietary insults → dysbiosis → barrier breakdown → immune dysregulation → chronic inflammation → organ-specific autoimmunity.

What is Fake Food?

Ultra-processed products made from refined ingredients and additives, lacking nutritional value and linked to inflammation, metabolic disorders, and autoimmune conditions.





What's the problem with ultraprocessed foods?

- **Industrially formulated foods:** Made from refined ingredients, additives, synthetic compounds.
- **Minimal whole ingredients:** Lack of fruits, vegetables, unprocessed grains.
- **High in additives:** Preservatives, artificial flavors, colors, emulsifiers, stabilizers; enhance taste (palatants), texture, and shelf life.
- **Nutritionally imbalanced:** Low in fiber, vitamins, minerals; high in sugar, unhealthy fats, sodium.
- **Engineered for overconsumption:** Designed for hyper-palatability, triggering cravings and overeating.
- **Examples:** Sugary cereals, packaged snacks, sodas, processed meats, and ready-to-eat meals.
- **Health concerns:** Linked to inflammation, gut dysbiosis, metabolic disruption, leaky gut, and autoimmune disorders.

Kraft Heinz Pulls Lunchables From National School Lunch Program

The move comes months after a Consumer Reports investigation documented lead and high levels of sodium in supermarket versions of the highly processed meals

By Kevin Loria

November 13, 2024



INGREDIENTS:

Wheat Flour, Water, Sugar, Glycerin, Soybean Oil, Yeast, Vital Wheat Gluten, Mono and Diglycerides, Salt, Xanthan Gum, Calcium Propionate, Sorbic Acid, Natural and Artificial Flavor, Enzyme, Tomato Paste, Modified Food Starch, Garlic Powder, Onion Powder, Spice, Citric Acid, Dried Basil, Sea Salt, Potassium Sorbate, Pork, Mechanically Separated Chicken, Beef, Pork Stock, Dextrose, Lactic Acid Starter Culture, Oleoresin of Paprika, Flavoring, Sodium Ascorbate, Sodium Nitrite, BHA, BHT, Pasteurized Part-Skim Milk, Milk Protein Concentrate, Sodium Citrate, Milkfat, Cheese Culture, Cellulose Powder

IN SUM

Ultra-processed foods, because of their chemical complexity, lack of fiber and micronutrients, and composition of additives, create a “double hit”: They erode the integrity and resilience of the gut microbiome (causing **dysbiosis**) and introduce exposures that **damage the mucosal barrier**.

The dysbiotic microbiome cannot sustain regulatory immune signaling, is more prone to inflammatory metabolites, and demonstrates increased epithelial injury.

As the barrier weakens, microbial products and food antigens leak across into the lamina propria or circulation and chronically stimulating innate and adaptive immune cells. In genetically susceptible children, this ongoing immune “priming” can tip over into a loss of self-tolerance and trigger autoimmune disease onset or exacerbate existing autoimmunity.



FOR IMMEDIATE RELEASE
Wednesday, October 8, 2025
Governor's Press Office: (916) 445-4571

Governor Newsom signs first-in-the-nation law to ban ultra-processed foods from school lunches

What you need to know: Governor Gavin Newsom today signed AB 1264, a first-in-the-nation law phasing out the most concerning ultra-processed foods from California schools.

LOS ANGELES – Building on California's long-standing leadership to protect children's health and set higher nutrition standards — from his signature on laws [banning](#) dangerous food dyes and chemicals to implementing [universal school meals](#) — Governor Gavin Newsom today signed AB 1264 by Assemblymember Jesse Gabriel (D-San Fernando Valley), a bipartisan, first-in-the-nation law providing a statutory definition of ultra-processed foods (UPF). This landmark law will phase out the most concerning ultra-processed foods from school meals in California.

Journey into Fake Foods...



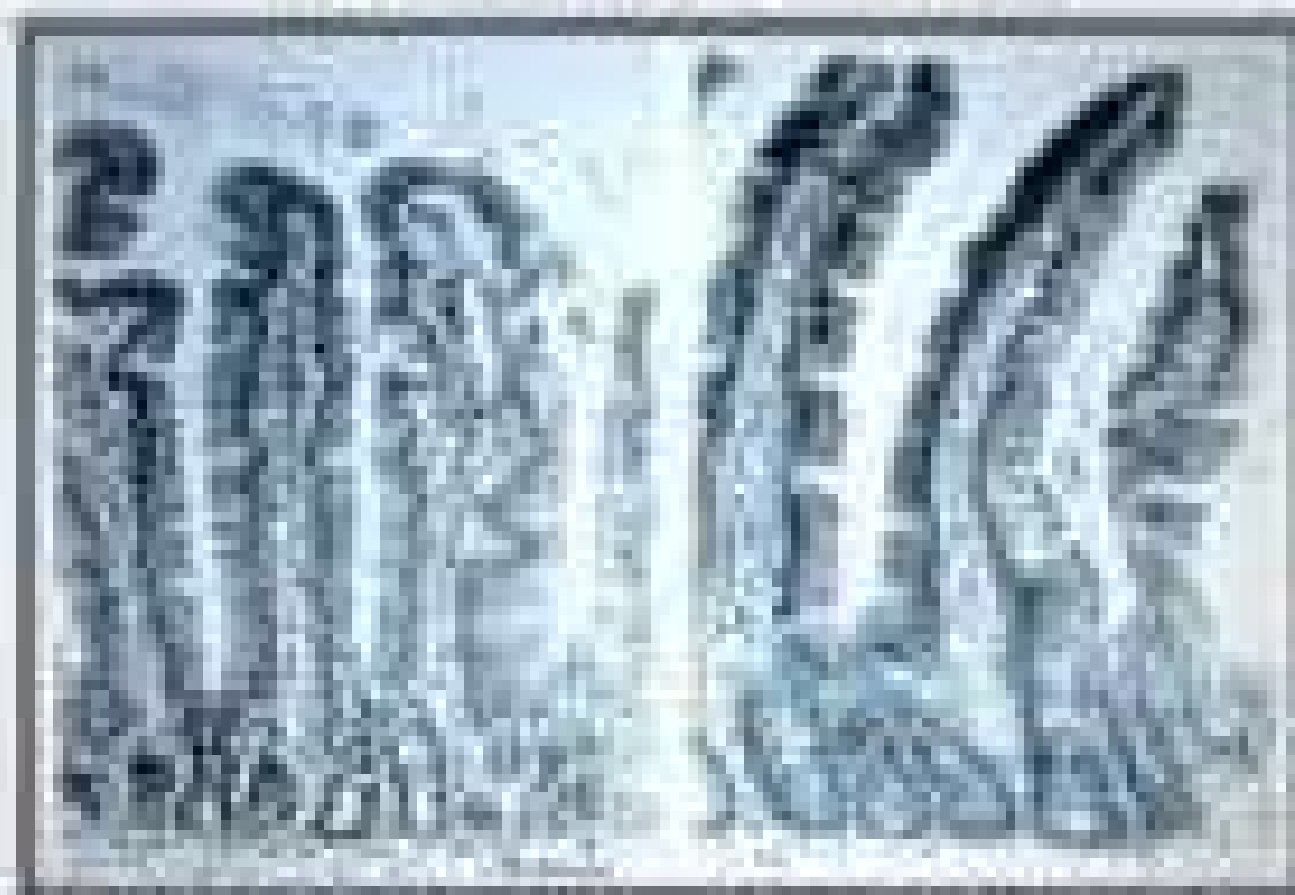
<https://www.youtube.com/watch?v=vNTO5OfINrobit> of body text



What's the problem with GMOs?

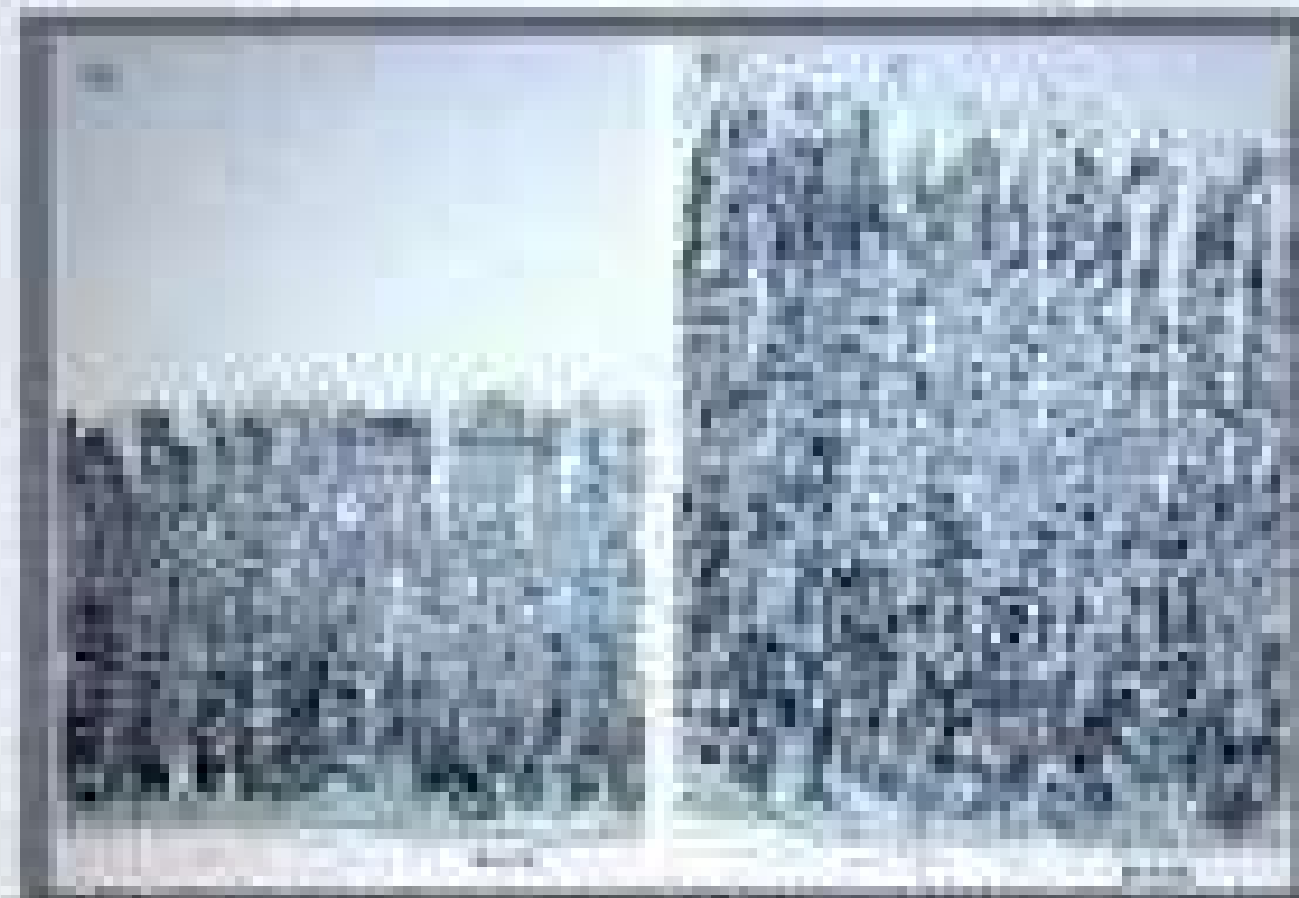
- **Herbicide residues:** GMO crops are engineered to tolerate glyphosate; increased herbicide use and exposure to residues linked to endocrine disruption, gut microbiome imbalance, metal chelator, and cancer risks.
- **Allergenicity:** Introduce new allergens and increase allergenicity.
- **Antibiotic resistance:** GMOs use antibiotic-resistant marker genes contributing to antibiotic resistance in humans.
- **Nutrient alterations:** Decreased nutrient composition, reducing beneficial compounds and introducing anti-nutrients.
- **Dysbiosis:** GMOs disrupt gut bacteria, swap plasmids, and contribute to inflammation and immune dysregulation.
- **Environmental concerns:** Cross-pollination with non-GMO crops and biodiversity loss create ecological and food security issues.
- **Long-term safety uncertainty:** Limited long-term studies on the health effects of GMO consumption leave gaps in understanding their full impact.

Intestinal Wall



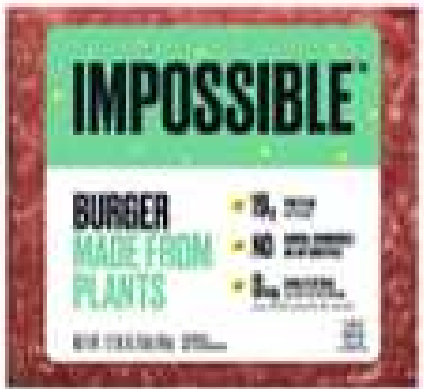
Non-GMO GMO-Fed

Stomach lining



Non-GMO GMO-Fed

Burger Nutrition Comparison

					
Nutrition information serving size	Ground beef 80% lean, 20% fat (100 grams)	Beyond Burger (113 grams)	Impossible Burger (113 grams)	Morning Star Black Bean (67 grams)	Boca Burger (71 grams)
Calories	270 calories	290 calories	240 calories	110 calories	100 calories
Saturated Fat	6.7g	5g	8g	0.5g	1g
Protein	26g	20g	19g	9g	13g
Sodium	75mg	450mg	370mg	320mg	350mg



Impossible Foods CEO says climate-based marketing a 'mistake'

Introducing fake meat as a climate solution made the industry a political target, Impossible Foods CEO Peter McGuinness said.

 semafor.com / Oct 16

The plant-based artificial meat industry made a critical “mistake” by introducing its products originally as a climate solution, Impossible Foods CEO Peter McGuinness said.

Sales of alternative meats have been steadily falling for the last several years, and Impossible Foods’ chief rival, Beyond Meat, saw its share price crater after its 2019 IPO. The reason, McGuinness said at the World Economy Summit, was that the industry was “mismarketed and mislaunched,” and stood little chance of competing in the PR arena against the vastly better-funded and better-organized Big Beef.

Bill Gates' Fake Meat Company 'Almost Worthless' After Stock Plunges

October 16, 2025 - 12:58 pm by [Frank Bergman](#)



Bill Gates's vision of controlling the global food supply through synthetic "meat" is crumbling before his eyes.

- Beyond Meat: Initially valued at 8 billion, is now worthless.
- The fake meat industry does not have a consumer appetite.

Key Findings from the UK Biobank Study on Plant-Based Meat Alternatives (PBMA):

- Compared vegetarians who consumed PBMA vs. those who did not.
- No major differences in intake of sodium, sugars, or saturated fat between groups.

PBMA consumers showed:

- Slightly higher blood pressure (130/79 vs. 129/78 mmHg).
- Elevated C-reactive protein (CRP) – a marker of inflammation.
- Lower apolipoprotein A, indicating possible lipid metabolism concerns.
- **Mental health: PBMA consumers had a 42% higher risk of depression.**
- Digestive health: PBMA consumers had a 40% lower risk of irritable bowel syndrome (IBS).
- Metabolomic and proteomic analyses showed no major biochemical differences overall.
- Conclusion: PBMA consumption offered no clear nutritional advantage and may be linked to inflammatory and mood-related effects, highlighting the need for further investigation into the health impacts of ultra-processed “fake meat.”

Study Links Bill Gates' Fake 'Meat' to Depression Spike

By Frank Bergman | slaynews.com · October 22, 2025 - 12:56 pm

sharing screenshots without credit hurts independent media



<https://ladns.onlinelibrary.wiley.com/doi/10.1002/fft2.532>

Bill Gates Backs Lab-Grown Breastmilk Startup Biomilq Again in \$21M Series A

By Sally Ho — Published on Oct 20, 2021 — Last updated Feb 25, 2022

CELL-BASED NEWS | ALT DAIRY | ALT PROTEIN



What's the problem with Biomilq?

- **Lack of immunological benefits:** Synthetic breast milk cannot replicate the immunity/bioactive compounds present in breast milk (critical for immune system development).
- **Absence of dynamic nutrient adaptation:** Has a fixed nutrient profile that may not fully support growth and development.
- **Processing concerns:** Produced using biotechnology; issues with contamination, residual processing chemicals, and genetic modifications.
- **Missing beneficial microbiota:** Breast milk contains probiotics and prebiotics that support gut microbiome; synthetic versions lack or cannot fully replicate.
- **Allergenicity and sensitivities:** Introduces new allergens due to processing methods and novel proteins.
- **Long-term safety unknowns:** No research exists on the long-term health impacts of consuming lab-grown breast milk.
- **Ethical and regulatory concerns:** Questions about oversight, transparency, and ethics.
- **Cost and accessibility issues:** Redirect funding to nursing moms/lactation support.

BREAKING: Bill Gates-backed lab-grown breast milk project goes bankrupt



@thecarnivorebar

What's the problem with Biomilq?

Biomilq Files for Bankruptcy After \$3.5 Million Bill Gates Investment; Brown Foods' UnReal Milk Claims 82% Carbon Emissions Reduction



4 posts • GPT (40 mini)

Published Mar 2, 2025, 04:38 PM



Biomilq, a company specializing in lab-grown breast milk, has filed for bankruptcy, following a \$3.5 million investment from Bill Gates. The startup aimed to create lab-grown milk products, which included UnReal Milk developed by Brown Foods, another startup that claims its production method reduces carbon emissions by 82% and conserves 90% of water compared to traditional dairy farming. The recent launch of milk with 'secret' vegetable flavors by a mother has been described as serendipitous in relation to the MAHA movement, indicating a growing interest in alternative milk products. Meanwhile, Progenabiome is expected to investigate the effects of lab-grown whole milk on the microbiome.



**Are breastmilk and
breastfeeding to be
replaced by a
motherboard?**





What's the problem with cellular meat?

- **Lack of long-term safety data:** No data on long-term health effects.
- **Processing additives/residues:** Growth media, antibiotics, and scaffolding materials used in production introduce contaminants/allergens.
- **Nutritional composition variability:** Lack key nutrients naturally found in conventional meat; fatty acids, vitamins (e.g., B12), and trace minerals.
- **Hormonal and growth factor concerns:** Use of growth factors and hormones to stimulate cell growth pose endocrine disruption when residual traces remain in the final product.
- **Structural and functional differences:** Does not replicate natural muscle fibers, collagen, and connective tissues; impact digestion and absorption.
- **Microbial contamination risks:** Bioreactor environments introduce pathogens or contaminants not typically encountered in conventional meat processing.
- **Allergenicity and immune responses:** Novel proteins or additives trigger allergies or immune reactions.
- **Environmental and ethical questions:** While marketed as sustainable, relies on energy-intensive processes and raises ethical questions about its impact on food security and agriculture.

Lab-Grown Meat Companies

- Aleph Farms - Israel - beef
- SciFi Foods - US - beef
- Avant Meats - Hong Kong - Fish
- BioCraft Pet Nutrition - Delaware - Pet food
- Bene Meat - Czech - Pet food
- Believer (Future Meat Technologies) - Israel - Various meats
- Biftek - Ankara, Turkey - Beef
- BioBQ - Texas - Beef
- BlueNalu - San Diego, CA - Seafood
- BioTech Foods - Spain - Pork
- Bond Pet Foods - Boulder, Colorado - Chicken for pets
- Cell Ag Tech - Malaysia - Beef
- CellX - China - Seafood, Chicken, Wagyu Beef
- Clear Meat - India - Chicken/EcoMeat
- Cubiq Foods - Spain - Lab-grown animal fat
- Finless Foods - California - Fish
- Fork and Good - US - Pork
- Forsea foods - Israel - Seafood/Eel meat

www.labgrownmeat.com/list-of-lab-grown-meat-companies/

Lab-Grown Meat Companies



- Gaia Foods - Singapore - Red meat
- GOOD Meat (Eat Just) - California - Chicken (First to be approved by FDA and USDA)
- Gourmey - France - Foie Gras and Poultry
- Uncommon Bio - UK - Pork
- Hoxton Farms - UK - Fat
- IntegriCulture, Inc. - Japan - Foie Gras and Technology ('Space Salt': Allow the public to grow their own meat at home)
- Meatable - Netherlands - Beef, Chicken, and Pork
- Steakholder foods - Israel and Belgium - Foie Gras - 3D bioprinting technology and only lab-grown meat company on the stock exchange
- Mewery - Czech - Pork - first European company cultivating pork on microalgae base
- Mirari Foods - Switzerland - Beef - uses only 'natural non-GMO cells'
- Mission Barns - California - Fat
- Mosa Meat - Netherlands - Beef
- Primeval Foods - UK and US - Bushmeat (lions, zebras, and tigers)
- Shiok Meats - Singapore - Crab, Lobster, and Shrimp
- SuperMeat - Israel - Poultry
- Upside Foods - San Francisco - Previously 'Memphis Meats' - Various meats
- Vow - Australia - Various Meats
- Wildtype Foods - San Francisco - Seafood - 'Sushi-grade'

Lab-Grown Meat Companies

▶ Food Sci Anim Resour. 2024 Mar 1;44(2):326–355. doi: [10.5851/kosfa.2024.e13](https://doi.org/10.5851/kosfa.2024.e13) 

Current Research, Industrialization Status, and Future Perspective of Cultured Meat

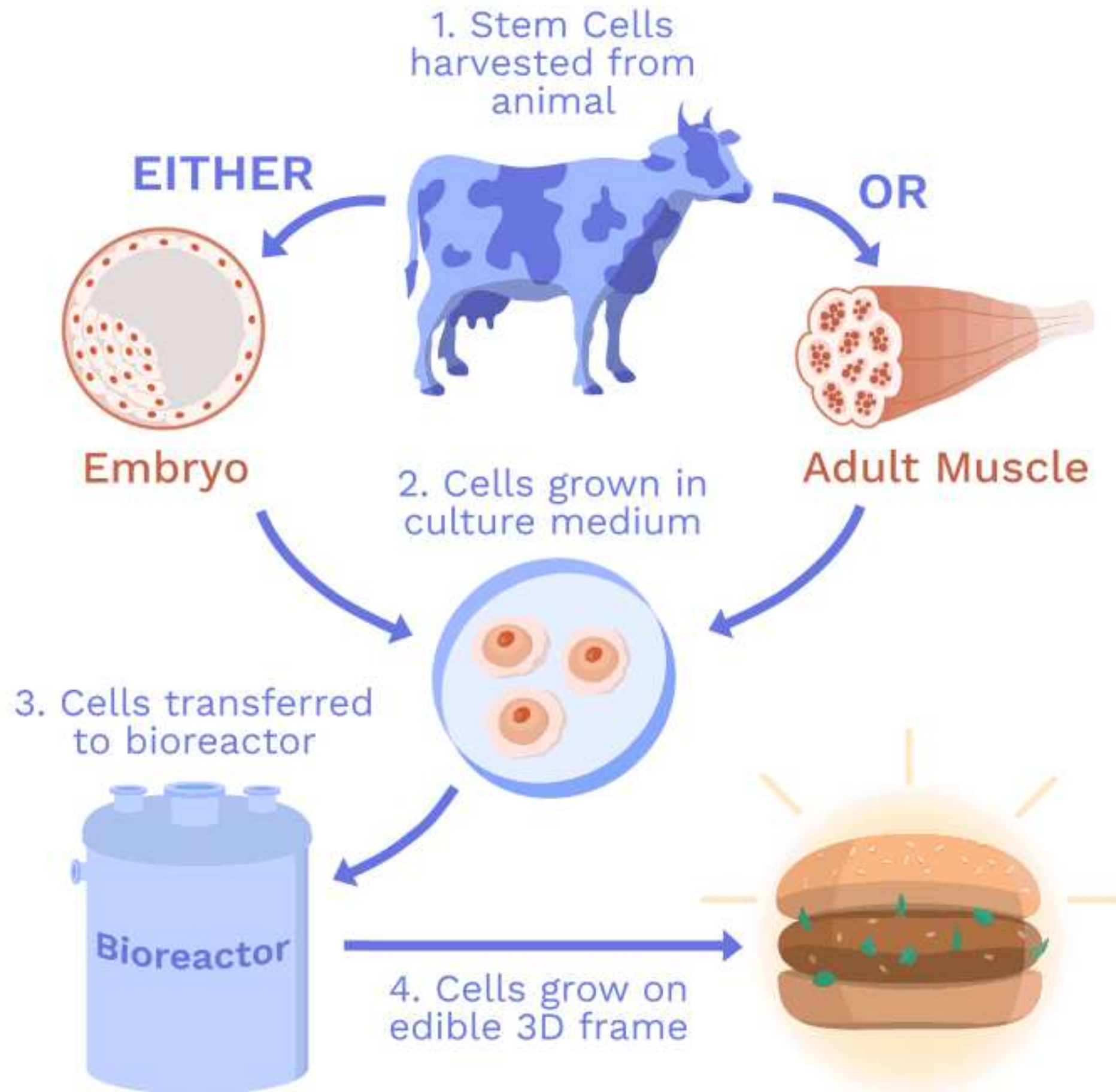
[Seung Hyeon Yun](#)¹, [Da Young Lee](#)¹, [Juhyun Lee](#)¹, [Ernie Mariano Jr](#)¹, [Yeongwoo Choi](#)¹, [Jinmo Park](#)¹, [Dahee Han](#)¹,
[Jin Soo Kim](#)¹, [Sun Jin Hur](#)^{1,*}

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PMCID: PMC11097034 PMID: [38764517](#)

“Currently, over 30 countries have companies industrializing cultured meat, and around 200 companies that are developing or industrializing cultured meat have been surveyed globally. By country, the United States has over 50 companies, accounting for more than 20% of the total. Acquiring animal cells, developing cell lines, improving cell proliferation, improving the efficiency of cell differentiation and muscle production, or developing cell culture media, including serum-free media, are the major research themes related to the development of cultured meat.”

How to Grow Meat



“Meat produced in this manner can help address the challenges facing global food systems related to climate change, food safety, food security, and animal welfare.”



www.alestiklal.net/en/article/amidst-legal-and-health-controversies-can-lab-grown-meat-resolve-the-global-food-crisis

Environmental impacts of cultured meat: A cradle-to-gate life cycle assessment

Derrick Risner, Yoonbin Kim, Cuong Nguyen, Justin B. Siegel, Edward S. Spang

doi: <https://doi.org/10.1101/2023.04.21.537778>

The scientists defined the global warming potential as the carbon dioxide equivalents emitted for each kilogram of meat produced. The study found that the global warming potential of lab-based meat using these purified media is four to 25 times greater than the average for retail beef.



Hallal? Kosher? Vegetarian?
HUMANE?

Sourcing

We begin by sourcing the best cells from the best chickens and cows. We painlessly extract cells from an egg or living animal.

The global halal meat trade was estimated at \$202 billion in 2021, and it is expected to reach \$375 billion by 2030.



**ITALY BECOMES FIRST
NATION TO BAN BILL
GATES FAKE MEAT**

Unraveling the Impacts on Children's Immunologic Well-Being

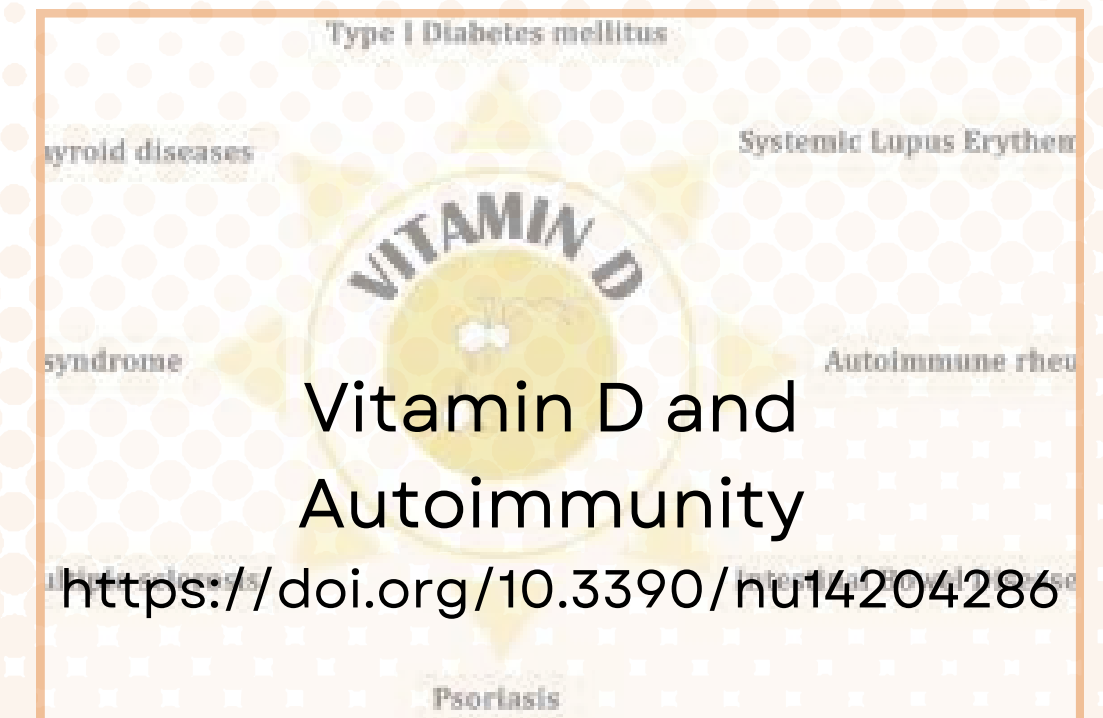
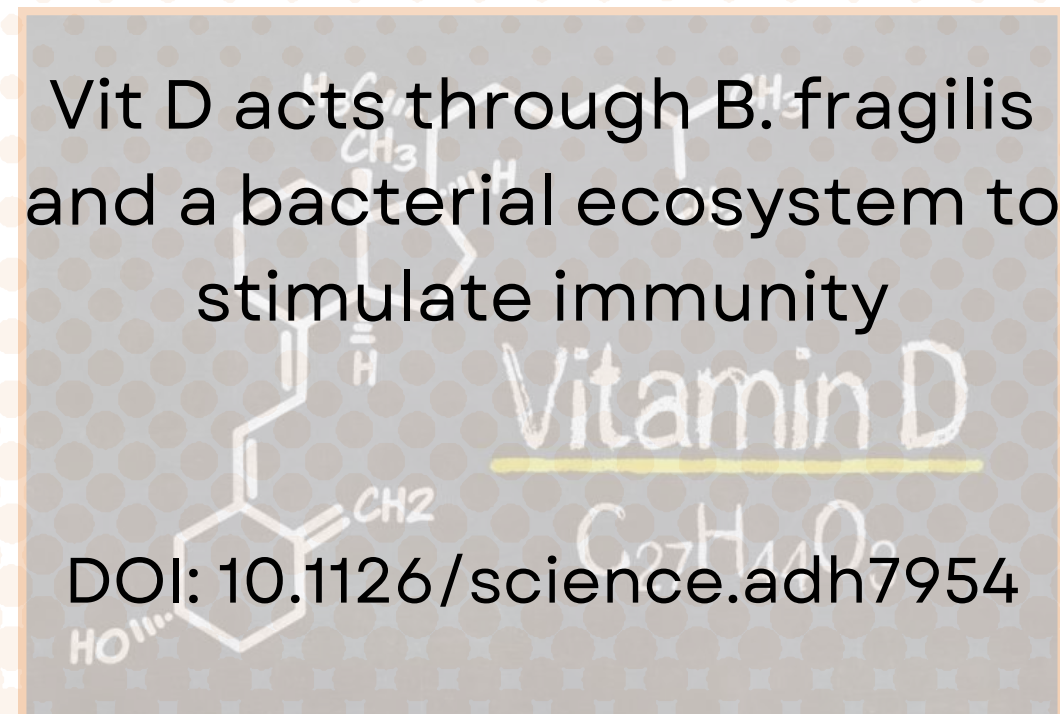
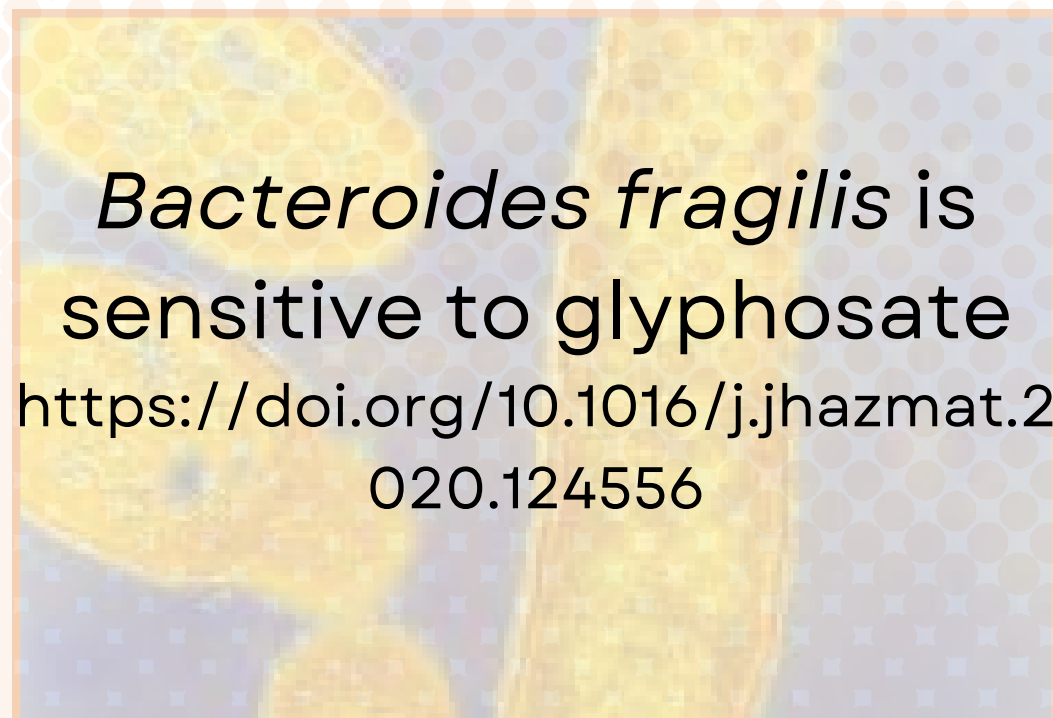
United States Patent
Abraham

(10) **Patent No.:**

US 7,771,736 B2

(45) **Date of Patent:**

Aug. 10, 2010



Vitamin D as an immune regulator

- Immune balance: Active form, 1,25-dihydroxyvitamin D₃ (calcitriol), binds to the vitamin D receptor (VDR) expressed on immune cells (T cells, B cells, dendritic cells, macrophages).

T-cell modulation:

- Suppresses Th1 and Th17 inflammatory pathways that drive autoimmunity (e.g., multiple sclerosis, type 1 diabetes, lupus).
- Promotes T-regulatory (Treg) cells, maintains immune tolerance and prevent self-reactivity.
- Innate defense: Enhances antimicrobial peptides such as cathelicidin (LL-37) and defensins, improving mucosal and gut barrier integrity—critical to preventing “leaky gut”—driven immune activation.

Prevention of Autoimmunity

- Barrier integrity: Vitamin D strengthens epithelial junctions in the gut, lungs, and skin, limiting antigen leakage and molecular mimicry that can trigger autoimmune cascades.

Reduced autoantibody formation:

- By dampening overactive B-cell responses and inflammatory cytokines (IL-2, IL-17, IFN-γ), vitamin D lowers autoantibody generation.

Microbiome influence:

- Adequate levels promote a balanced microbiota (↑ Akkermansia, Faecalibacterium, ↓ pathobionts), indirectly reducing immune dysregulation.

Autoimmunity:

- Low serum 25(OH)D < 30 ng/mL correlates with increased risk for type 1 diabetes, multiple sclerosis, and autoimmune thyroid disease; supplementation often reduces relapse rates.

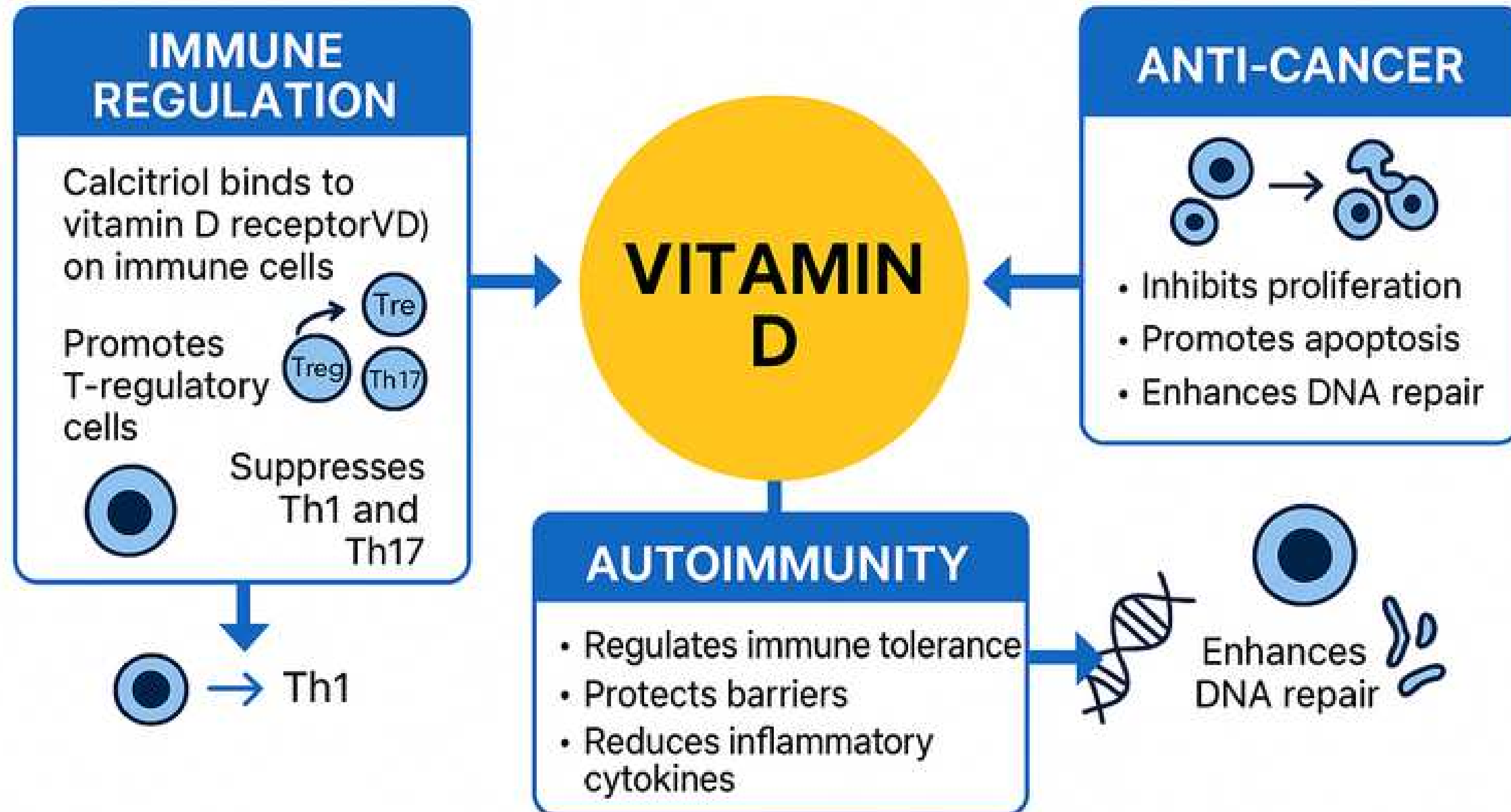
Cancer:

- Higher 25(OH)D levels (40–60 ng/mL) associated with lower incidence and improved outcomes in colorectal, breast, and prostate cancers in multiple meta-analyses.

Mechanistic convergence:

- Both autoimmune and neoplastic processes involve immune imbalance and unchecked cell growth—pathways that vitamin D helps normalize.

How Vitamin D Guards Against Autoimmunity and Cancer



Putting it all together...

Glyphosate as a microbiome disruptor:

- Glyphosate acts as an antibiotic, altering gut microbiome composition and reducing beneficial bacteria like *Bacteroides fragilis*.
- *B. fragilis* is crucial for maintaining gut integrity, regulating immune tolerance, and reducing inflammation.
- *B. fragilis* may be useful in rx of ASD (Underwood. *Science*; 2013)

Figure 6

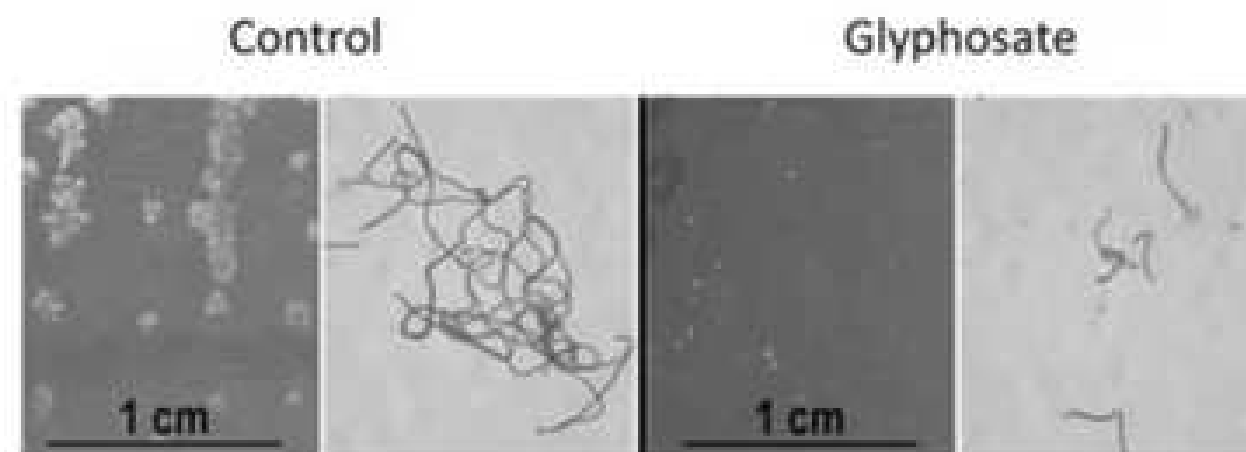


FIGURE 6. Effect of 1,000 mg/kg of glyphosate on macroscopic and microscopic growth of *Lactobacillus delbrueckii* subsp. *bulgaricus* in a solid growth medium for 48 h, modified from Clair E. et al. (2012).

Vitamin D: Anti-Aging Superstar



The American Journal of Clinical Nutrition

Volume 122, Issue 1, July 2025, Pages 39-47



Original Research Article

Vitamin D₃ and marine ω -3 fatty acids supplementation and leukocyte telomere length: 4-year findings from the VITamin D and OmegA-3 Trial (VITAL) randomized controlled trial

Haidong Zhu¹  , JoAnn E Manson^{2,3}, Nancy R Cook^{2,3}, Bayu B Bekele¹, Li Chen¹, Kevin J Kane⁴, Ying Huang¹, Wenjun Li⁴, William Christen², I-Min Lee^{2,3}, Yanbin Dong¹

Vitamin D₃ Supplementation and Leukocyte Telomere Length

- Vitamin D₃ (2,000 IU/day) reduced telomere attrition over 4 years vs placebo
- Marine omega-3 fatty acids had no significant effect
- Generalizability to younger populations is limited
- Findings suggest that vitamin D₃ may counteract telomere erosion

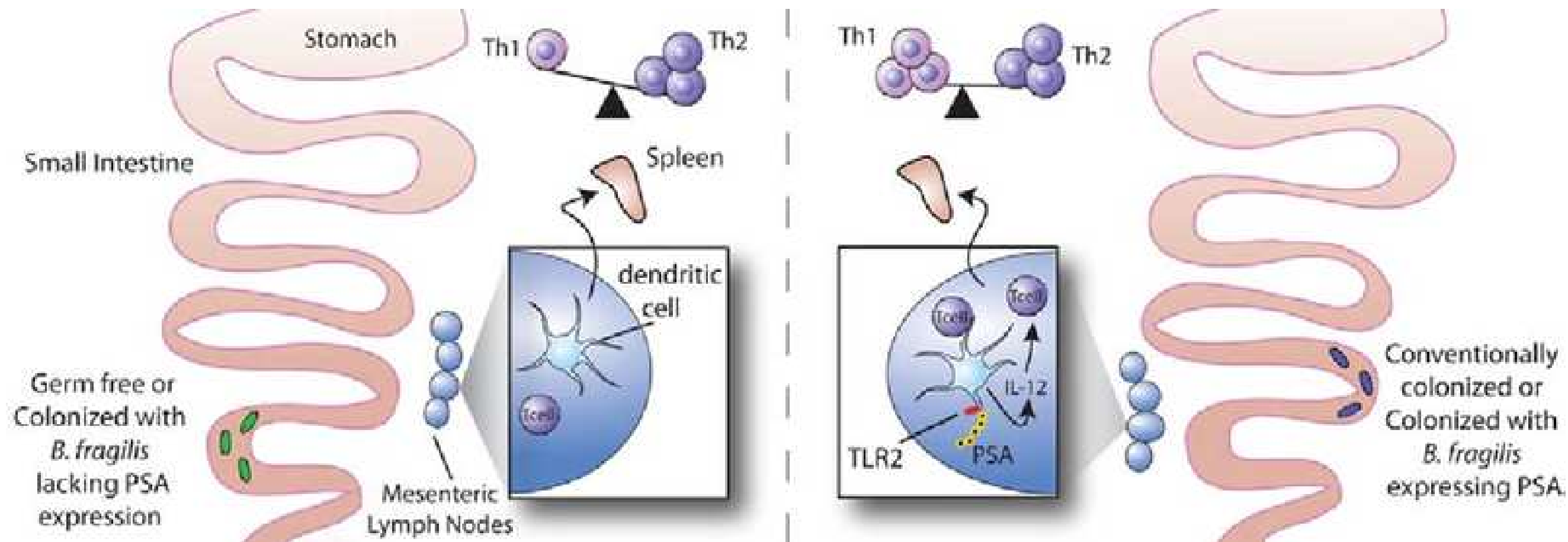
Vitamin D regulates a suite of genes linked not only to cellular aging, but inflammation and oxidative stress - 3 significant factors that promote chronic disease.



Putting it all together...

Impact on *Bacteroides fragilis* and Immune Function:

- *B. fragilis* produces polysaccharide A (PSA), which modulates T-regulatory (Treg) cells, essential for preventing autoimmunity.
- Glyphosate-induced depletion of *B. fragilis* impairs immune regulation, leading to hyperactive immune responses and inflammation.



Putting it all together...

Vitamin D Metabolism and Absorption:

- Gut dysbiosis caused by glyphosate can impair nutrient absorption, including Vitamin D
- *B. fragilis* supports gut health, indirectly promoting proper absorption of Vitamin D, a critical modulator of immune function
- Vitamin D supports immune function in pediatric PANS/PANDAS, JIA, type 1 DM, SLE, MS, dermatomyositis, and alopecia areata

<https://www.ncbi.nlm.nih.gov/pubmed/29769136>

<https://www.ncbi.nlm.nih.gov/pubmed/29061729>

<https://www.ncbi.nlm.nih.gov/pubmed/28447433>

<https://www.ncbi.nlm.nih.gov/pubmed/27147283>

<https://www.ncbi.nlm.nih.gov/pubmed/21924736>

<https://www.ncbi.nlm.nih.gov/pubmed/28356466>

Peds Dosing Vit D3/K2

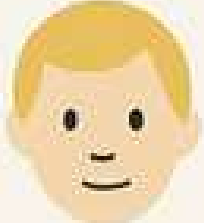
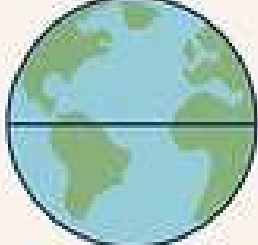
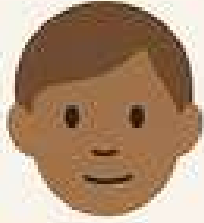
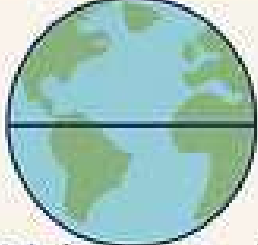
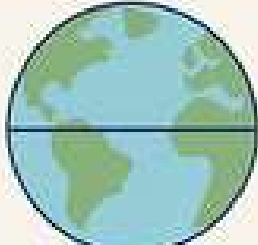
- Up to 6 months: 1000 IU per day
- 6–12 months: 1500 IU per day
- 1–3 years: 2500 IU per day
- 4–8 years: 3000 IU per day
- From 9 years: 4000 IU per day

Most pediatric supplements that include K2 use MK-7 (a long-acting form). Use ~1 mcg/kg/day of MK-7 as a practical guideline. Doses typically range:

- Infants & toddlers: 5–15 mcg/day
- Children 4–10 years: 15–30 mcg/day
- Adolescents: 30–75 mcg/day



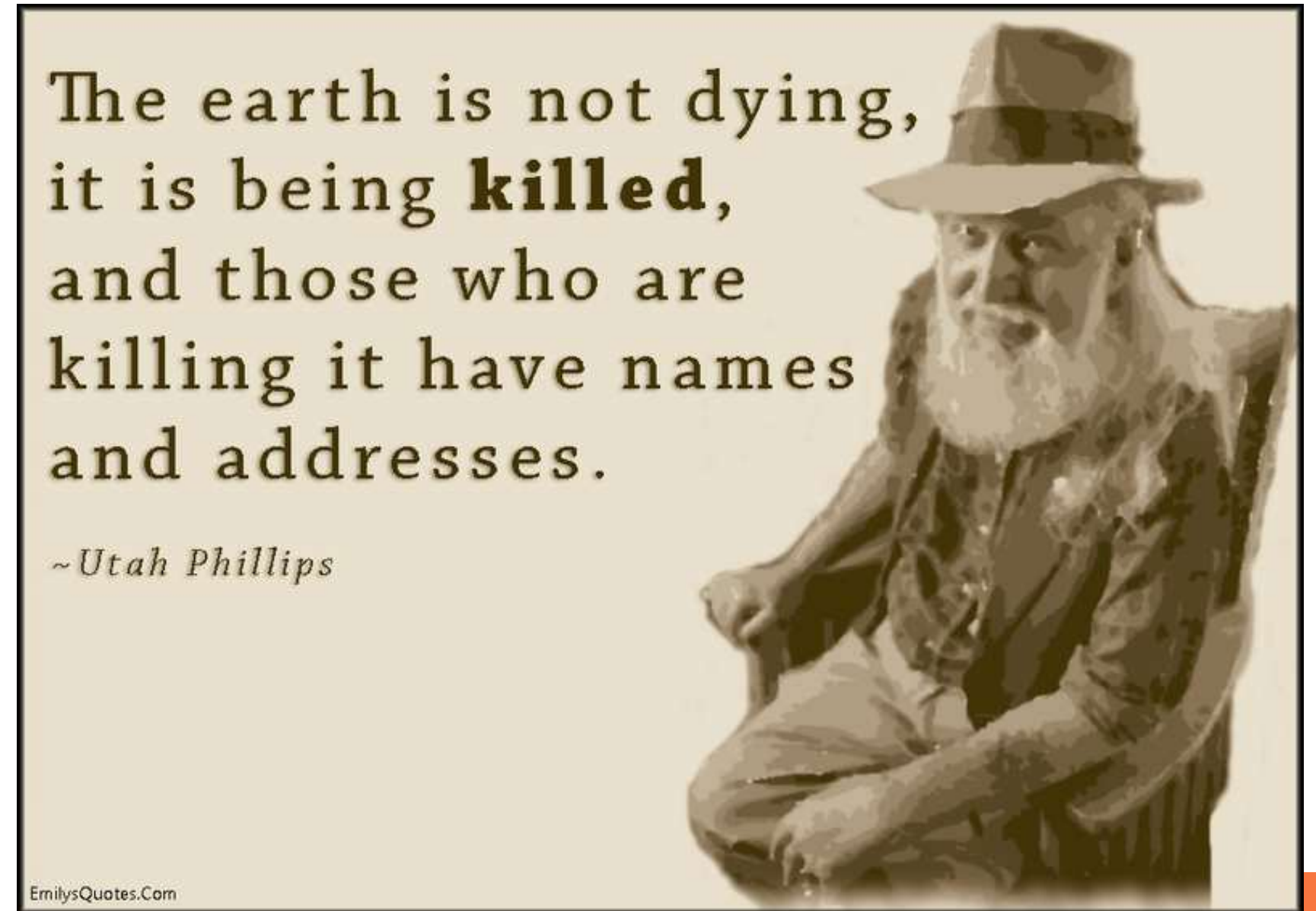
Sunlight Exposure and Vitamin D Production

Skin Type	Sun Exposure Duration	Approx. IU Produced*	Latitude
 Fair	>15 minutes	5.000	 –35° N (e.g., Los Angeles)
 Medium	>25 minutes	5.000	 –35° N (e.g., Ankara)
 Dark	>40 minutes	5.000	 –35° N (e.g., Cairo)

Putting it all together...

Vitamin D Deficiency and Autoimmunity:

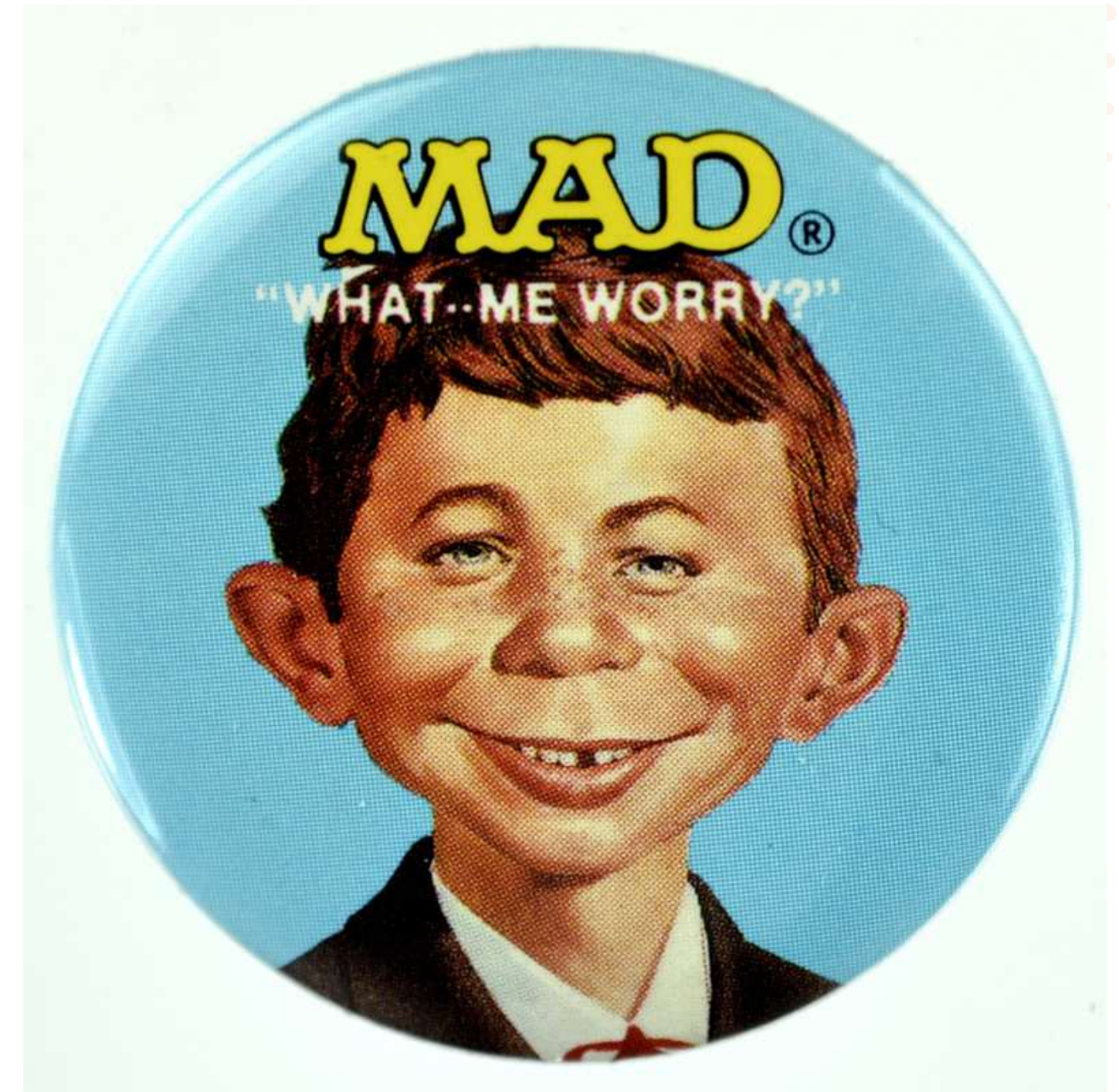
- Vitamin D deficiency is strongly linked to autoimmune diseases like multiple sclerosis, rheumatoid arthritis, and type 1 diabetes.
- Glyphosate's disruption of gut bacteria and Vitamin D metabolism exacerbate Vitamin D deficiency, further increasing autoimmune risk.



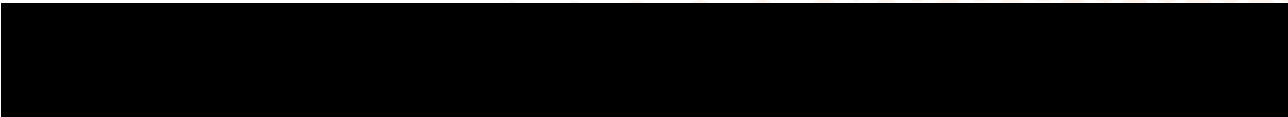
Putting it all together...

Inflammation and Leaky Gut Syndrome:

- Glyphosate damages intestinal tight junctions, contributing to leaky gut syndrome, which allows toxicants, LPSs, and undigested proteins to enter the bloodstream.
- This triggers systemic inflammation and autoimmune activation, often associated with gut dysbiosis and reduced *B. fragilis*.



Putting it all together...



Take-away:

- Vitamin D functions partly through its ecological support of commensal microbes like *Bacteroides fragilis*.
- This bacterium’s polysaccharide A educates the immune system toward tolerance and homeostasis.
- Glyphosate threatens this delicate alliance, undermining both microbial balance and the immune-protective effects of vitamin D.

Vitamin D + *B. fragilis* Axis → Immune Homeostasis

Vitamin D Action	Microbial / Immune Effect	Glyphosate Consequence
Activates VDR → defensins, barrier integrity	Preserves anaerobic niche & supports <i>B. fragilis</i>	Glyphosate suppresses <i>B. fragilis</i> growth
Promotes Tregs via tolerogenic dendritic cells	PSA from <i>B. fragilis</i> stimulates IL-10 + Treg induction	Loss of PSA-mediated immune tolerance
Maintains microbial diversity & SCFA producers	Balanced immune signaling, reduced Th17/autoimmunity	Dysbiosis → low-grade inflammation



Key Mineral Cofactors for Vitamin D Activation:

1. Magnesium

- Essential for converting Vitamin D into its active form (calcitriol).
- Acts as a cofactor for enzymes involved in the hydroxylation of Vitamin D in the liver and kidneys.
- Deficiency can directly impair Vitamin D activation and function.

2. Zinc

- Supports the activity of Vitamin D receptors (VDR) in cells.
- Plays a role in immune modulation and bone health, complementing Vitamin D functions.

3. Boron

- Enhances the biological half-life of Vitamin D.
- Assists in calcium and magnesium metabolism, improving bone strength.
- Helps internal terrain resist technological intrusion

4. Calcium

- Works alongside activated Vitamin D to support bone mineralization.
- Requires adequate Vitamin D for optimal absorption in the intestines.

5. Iron

- Involved in enzyme systems that help metabolize Vitamin D.
- Deficiency may reduce the effectiveness of Vitamin D in immune regulation.

6. Copper

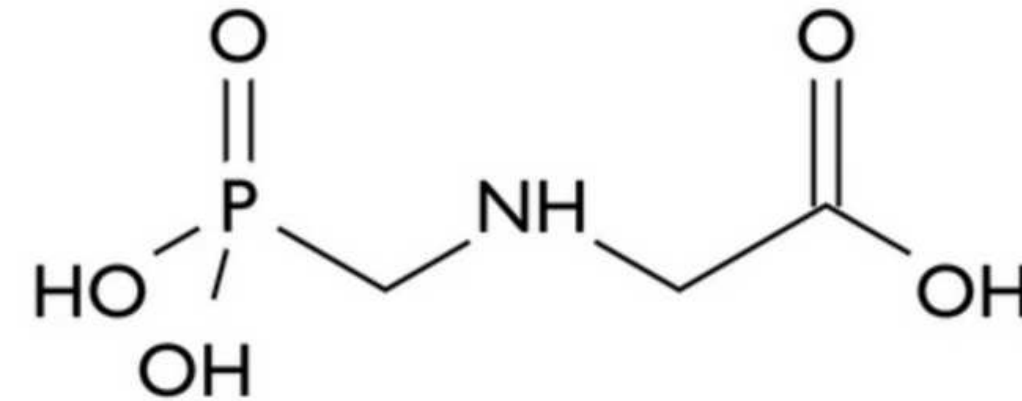
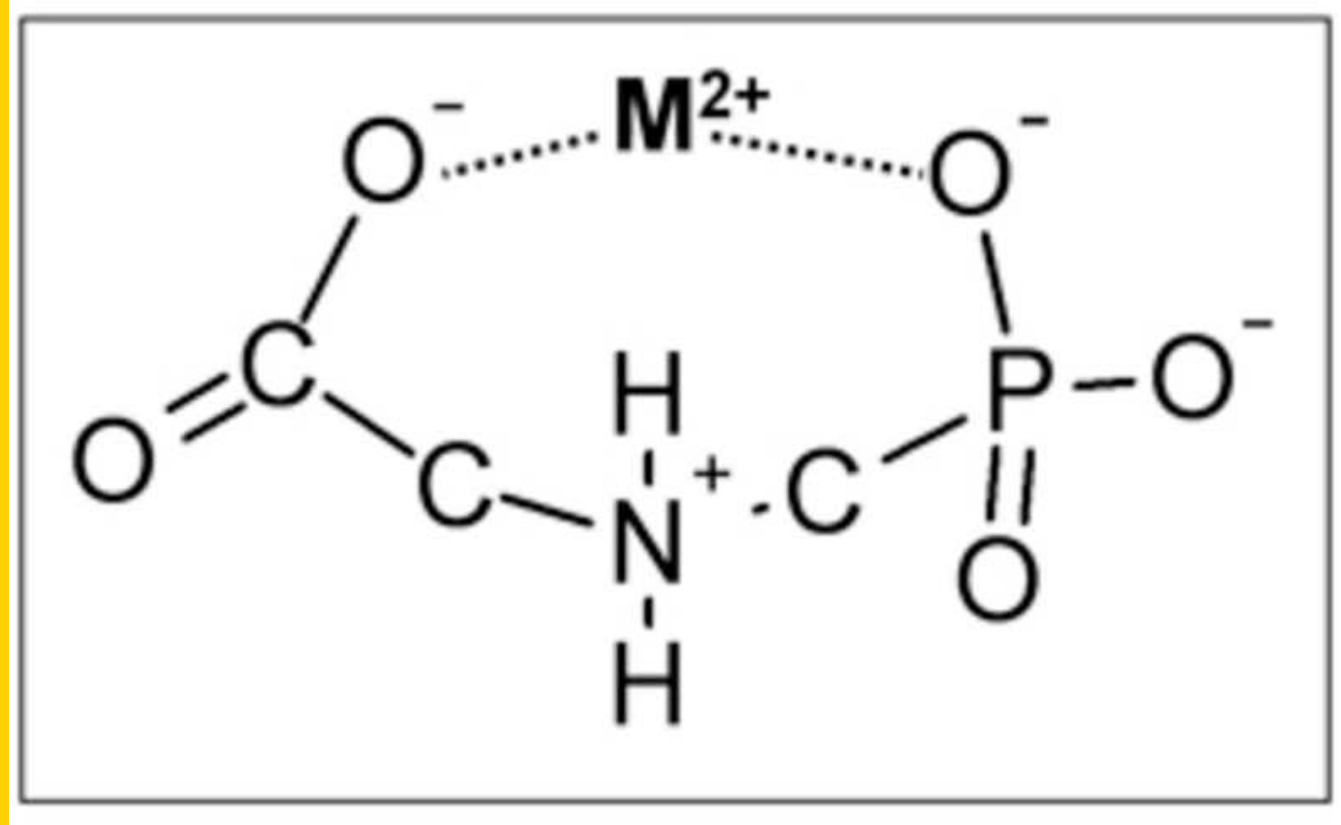
- Contributes to collagen synthesis and bone health, complementing Vitamin D's role in maintaining skeletal integrity.

7. Selenium

- Supports antioxidant defense and immune function, helping Vitamin D reduce inflammation and oxidative stress.

Glyphosate is a metal chelator

It binds minerals (iron, manganese, zinc, boron, calcium, magnesium, etc.

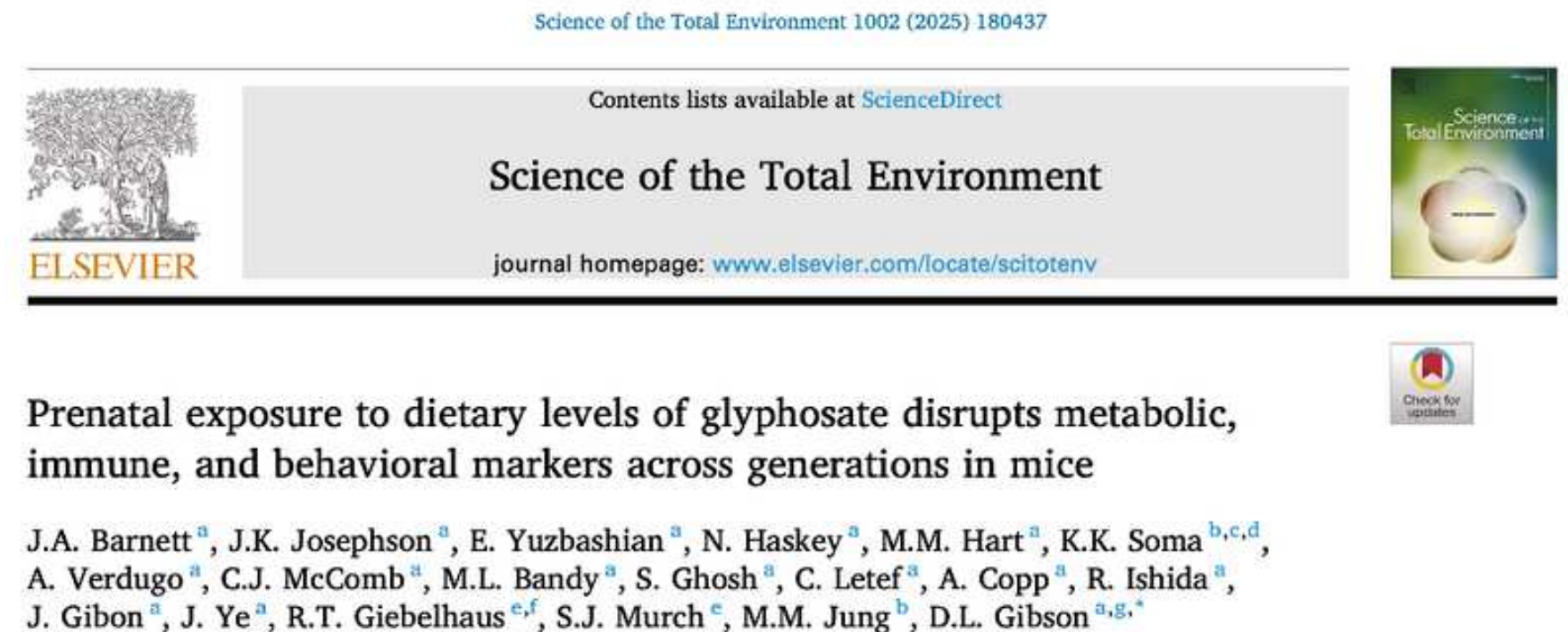


Key Takeaway:

- Glyphosate exposure disrupts gut microbiota, reduces *B. fragilis*, and interferes with Vitamin D metabolism, binding key minerals collectively promoting inflammation, immune dysregulation, and increases the risk of autoimmune diseases.
- Even if vitamin D levels appear “normal,” functional deficiency may persist due to mineral depletion and enzyme inhibition.

New research: Glyphosate reduces *Akkermansia muciniphila*

- Even low, dietary-level glyphosate exposure in utero can disrupt barrier function, immune homeostasis, metabolism, and behavior – not just in the directly exposed F1, but in F2 (transgenerational).
- The presence of a genetic vulnerability (Muc2 variants) enhanced or revealed vulnerability – showing gene × environmental interaction.
- The microbiome mediates many of these effects (gut-brain axis, immune signaling, metabolic regulation).
- This paper underscores that regulatory “safe” thresholds underestimate chronic, developmental and transgenerational toxicity, particularly via the gut-mucosal-immune axis.



Key Takeaway:

- Reduction of *Akkermansia muciniphila* – a keystone mucin-degrading bacterium that strengthens the gut barrier, improves glucose metabolism, and supports insulin sensitivity.
- Glyphosate → loss of barrier-protective bacteria (*Akkermansia*, *Bifidobacteria*, *B. fragilis*) → mucosal thinning and dysbiosis → impaired GLP-1 signaling → metabolic and immune disruption.

SUMMARY

Vitamin D's immune benefits depend on its mineral cofactors and its partnership with commensal microbes like *Bacteroides fragilis*. Glyphosate undermines both by chelating the necessary minerals that activate vitamin D and by directly inhibiting key gut bacteria that signal through the vitamin D-VDR axis. This creates a triple hit: Mineral deficiency + vitamin D dysfunction + microbial collapse = immune dysregulation and autoimmunity risk.

**The result is a breakdown of the
microbiome–mineral–mucosal ecosystem
that underpins immune tolerance in children.**

PATENT PARADE



Concerns about lab-grown meat mirror past trends with ultra-processed foods. Efforts to replace traditional animal husbandry with lab-cultured meat impede food security and health.



This shift centralizes control of the food supply in the hands of private corporations, compromising nutritional quality, long-term safety, and agricultural sustainability. It is imperative that medical practitioners are aware of the implications for public health, including the impact on metabolic health, gut microbiome balance, and immune function.

SOLUTIONS



My 8 step program

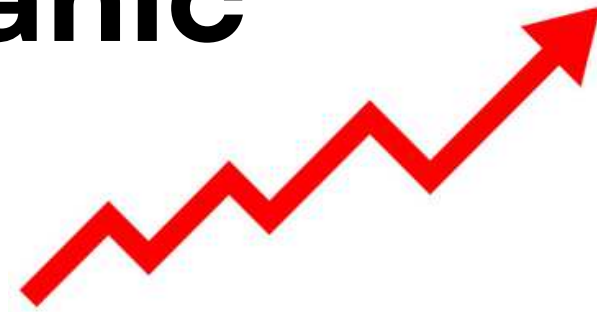
1. Promote Organic Regenerative Diets:

- Encourage consumption of certified organic foods, which prohibit the use of GMOs and glyphosate.
- Emphasize whole, unprocessed foods to reduce exposure to hidden GMO ingredients.



Regenerative
Organic
Certified™

2. Support Organic Regenerative Agriculture:

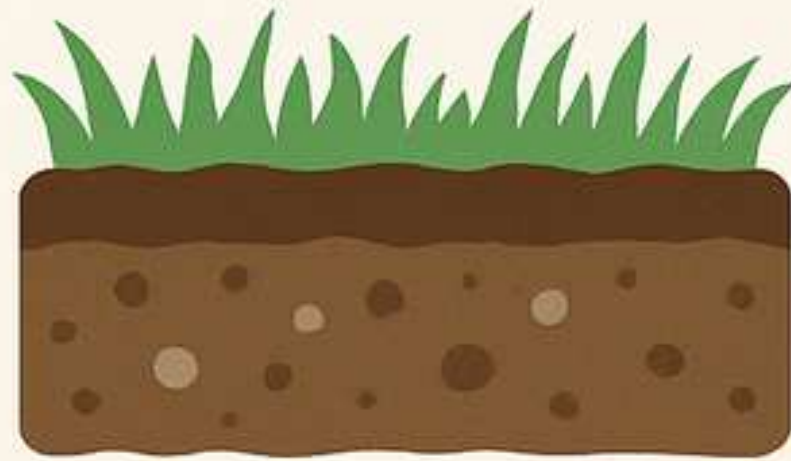


- Advocate for sustainable farming practices; prioritize soil health and biodiversity, reducing the need for synthetic herbicides.
- Educate patients about local farmers and Community Supported Agriculture (CSA) programs using regenerative methods.

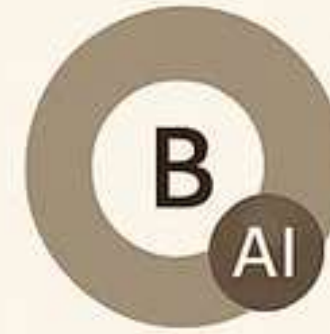


How Soil Depletion Weakens Our Defense Against Nanomaterials

Soil Depletion



Boron-Rich Foods



Binding Capacity

Forms stable complexes with aluminum, titanium nanomaterials



Membrane Protection

Maintains integrity of cell membranes and mucosal barriers



Oxidative Stress & Detoxification

Quenches reactive oxygen species, supports antioxidant enzymes



Neural & Endocrine Protection

3. Educate Food Label Awareness

- Teach patients how to read labels.
- Learn about high-risk GMO crops and ingredients: Soy, corn, canola, sugar beets, and cotton seed oil.



DISSECTING IN-N-OUT[®] BURGER & FRIES

- Meat from large **Factory Farms** where beef is raised with **Routine Antibiotics** which is putting us at risk for contracting dangerous antibiotic-resistant infections that can no longer be treated with antibiotics.
- Meat that is raised with **Growth Hormones** that are linked to increased cancer risk.
- **French Fries** are submerged and fried in **GMO Cottonseed Oil** - one of the worst inflammation promoting oils grown with toxic pesticides not approved for food.
- Sandwiched between buns made with **Fully Hydrogenated Soybean Oil** and **Sugar Beets** likely from GMO crops heavily treated with **Monsanto's Roundup Herbicide**, a probable carcinogen according to the World Health Organization.
- Slathered with sauce made with **High Fructose Corn Syrup** shown to contribute to Type II Diabetes, especially in children.
- Sauce artificially colored with **Yellow #5** derived from petroleum and linked to childhood behavioral problems requiring a warning label in Europe.
- The complete ingredient list is **TOP SECRET...** and until In-N-Out releases it you'll never know exactly what you're eating!

FoodBabe.com

FOOD BABE

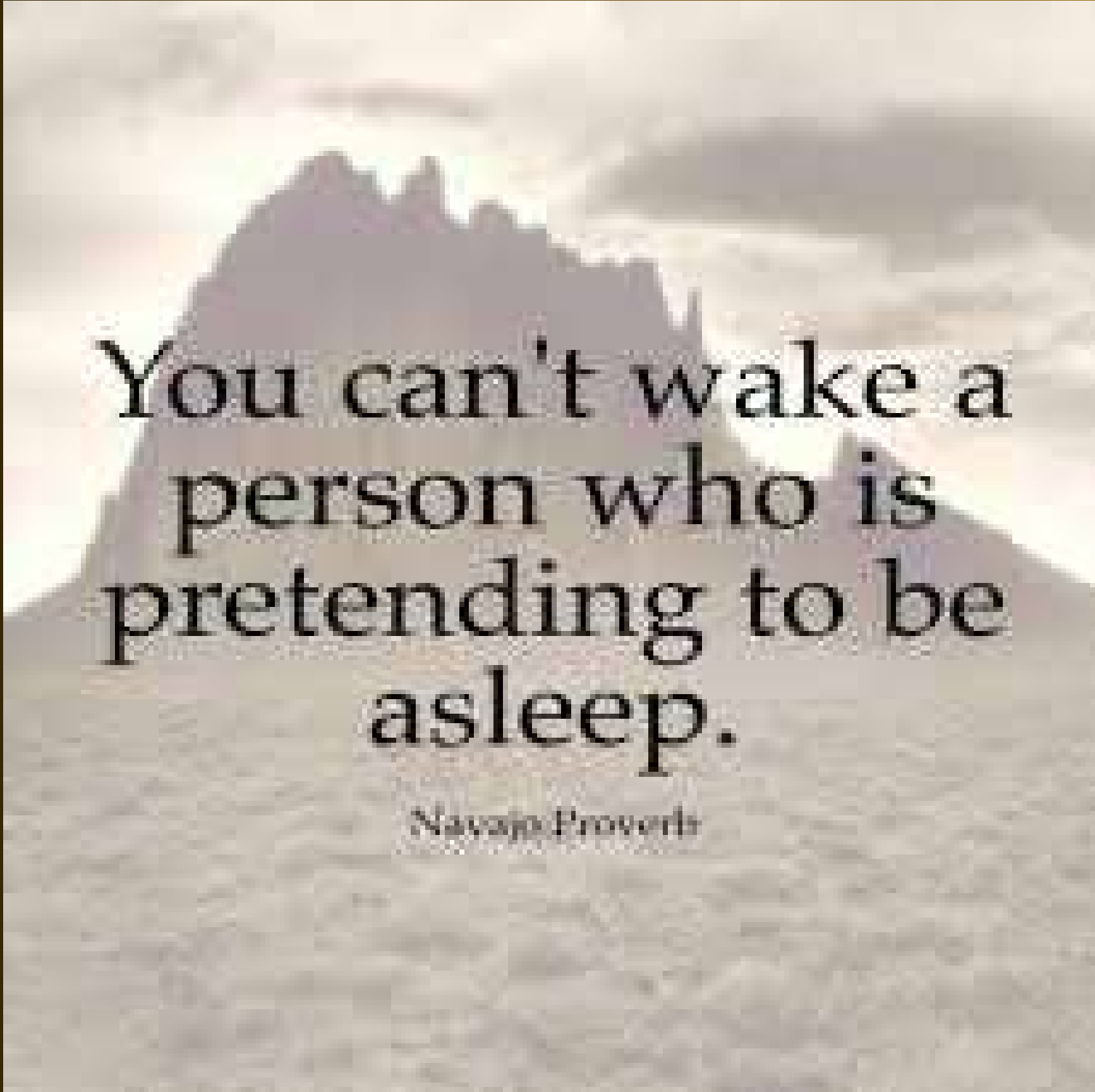
#FoodBabeArmy

4. Detoxification Support

- Recommend nutrient-rich diets to support liver detoxification pathways (e.g., foods high in sulfur, antioxidants, and fiber).
- Prescribe supplements like magnesium, zinc, selenium, and glutathione/NAC to aid detoxification.

Detox Baths for Kids

- Bath water filter
- Epsom salt
- Baking soda
- Bentonite clay
- Real salt
- Boron
- Essential oils/teas
- Warm water best
- 15-20 minutes
- Rinse
- Hydrate



You can't wake a
person who is
pretending to be
asleep.

Navajo Proverb

5. Gut Health Restoration:

- Pre, pro (synbiotics), and postbiotics to rebuild gut microbiota disrupted by glyphosate exposure.
- Recommend bone broth, fermented foods, and polyphenol-rich plants to repair gut integrity.
- Babies need *Bifido*.

Synbiotic Pairings

Probiotic Strain	Prebiotic Substrate	Primary Benefit
Bifidobacterium infantis	Human milk oligosaccharides (HMOs)	Infant gut development, immune tolerance
Bifidobacterium longum	Galactooligosaccharides (GOS)	SCFA production, gut barrier health
Lactobacillus plantarum	Inulin	Anti-inflammatory, anti-pathogenic
Akkermansia muciniphila	Polyphenols, resistant starch	Mucosal barrier integrity

6. Water Filtration Systems:

- Install high-quality water filtration systems to remove glyphosate residues from drinking water.
- Purchase the best system within a family's budget.

Recommendations



- Pure Effects
- ZeroWater Filters
- Epic Water Filters
- Clearly Filtered systems
- Berkey Water Filters
- qualitywaterlab.com

7. Testing and Monitoring

- Glyphosate/AMPA urine testing for individuals with chronic inflammation or autoimmune disease. (HRIILabs.org)
- Check Vitamin D, gut microbiome health, and mineral status to assess impact and recovery.
- Directlabs.com - \$139.00



PATIENT: Blood Spot
ID: P000000000
SEX: Female
DOB: 1/1/1980

DOCTOR:
Doctor's Data, Inc.
3755 Illinois Ave
St. Charles, IL 60174 USA

Vitamin D; blood spot

RESULTS						
	RESULT ng/mL	REFERENCE INTERVAL	LOW	MOD-	OPTIMAL MEAN	MOD+ HIGH
25-Hydroxyvitamin D Total	11	40 – 80				
25-Hydroxyvitamin D ₂	< 3					
25-Hydroxyvitamin D ₃	11					

CALL TO ACTION



*Time to get off
the couch!*



8. Advocate for Policy Change:

- Healthcare providers, patients, consumers, and eaters all take action supporting policy reforms for stricter GMO labeling laws with the goal of ending GMOs and ZERO pesticide use goal.
- Promote awareness campaigns about the health impacts of GMOs/glyphosate-based herbicides, UPFs, fake meats etc.
- Become a scientist/citizen scientist.
- <https://gmoscience.org/2024/05/20/why-study-toxic-metals-in-infant-formula-an-overview-of-the-results/>
- <https://gmoscience.org/2024/12/27/danger-in-the-dough/>
(Toxic contaminants in Girl Scout Cookies)



CRUISE

These Cruise Lines Are Turning Leisure Travelers into Citizen Scientists

*As expedition cruising grows, so does its contribution to scientific
research.*

BY STEFANIE WALDER

October 2, 2024

Top four pesticide decreases after one week of organic diet



What's Making Our Children **SICK?**

How Industrial Food Is Causing an
Epidemic of Chronic Illness,
and What Parents (and Doctors)
Can Do About It

EXPLORING THE LINKS BETWEEN
GM FOODS, GLYPHOSATE, AND GUT HEALTH

Michelle Perro, MD *and*
Vincanne Adams, PhD

*Coming
Soon!*

Making Our Children **WELL**

A Parent's Guidebook:
Empowering Healthy Families
with Homeopathy and
Nutrition

Michelle Perro, MD
Co-Author of the best seller
What's Making our Children Sick?

Unless
someone
like you
cares a whole
awful lot,
nothing is
going to
get better.
It's not.



Thank you!

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Non-profit since 2014:
501(c)(3)

GMOScience
educate to regenerate

Michelle Perro, MD, DHom
info@gmoscience.org

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