

SAFE HEALTH REPORT

Scientific Data ... Informed Choice ... Actionable

March 2024

Issue 20

Please repeat once before proceeding: **He Can Do It, She Can Do It, I Can Do It!**

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Too Much Protein: Not Safe?

Your Ticket to Exuberant Health for the Next 5 Years

High-Protein Diets and Heart Health: New Study Points to Leucine as a Potential Culprit

A recent study by Zhang X and his colleagues at the University of Pittsburgh suggests that the potential downsides of high-protein diets might be linked to a specific amino acid: leucine.

While high-protein diets like paleo and keto have gained popularity, research has yielded mixed results regarding their impact on health, particularly heart health. Some animal studies

have linked such diets to increased atherosclerosis, while human studies haven't always been conclusive.

This new research, published in Nature Metabolism, proposes that leucine, an essential amino acid found abundantly in animal protein, may be responsible for



Ike Kim
Editor

some of the observed negative effects. The study suggests that leucine intake can trigger the activation of monocytes, inflammatory cells associated with atherosclerosis.

Researchers conducted controlled human trials where participants consumed either low-protein or high-protein shakes and solid meals. Blood samples and monocyte activity were then analyzed. Results showed that higher protein intake led to increased levels of leucine in the blood and a corresponding increase in monocyte activation. Further experiments in cell cultures confirmed that leucine, compared to other amino acids,

had the strongest effect on monocyte activation.



While the study offers intriguing insights, it's important to note its limitations. The controlled nature of the experiment, with calorie intake strictly monitored, may not reflect real-world dietary habits. Additionally, the research focused primarily on leucine; further investigation is needed to understand the complete picture.

However, the findings do raise noteworthy questions about the potential negative consequences of high-protein diets, particularly those heavily reliant on animal sources. This aligns with the observation that plant-based proteins tend to contain lower levels of leucine.

Overall, this study adds new information to the ongoing discussion about the relationship between protein intake and health. While more research is needed, it

suggests that consumers, especially those concerned about heart health, may benefit from considering the source and quantity of their protein intake, potentially favoring plant-based options.

Actionable Recommendations:

Consider a shift towards plant-based sources like beans and lentils, while reducing your reliance on meat. This dietary tweak aligns with emerging research suggesting potential benefits for both your health and the environment.

While protein is crucial for various bodily functions, some dietary habits, particularly those high in red and processed meats, have been linked to potential health risks. Recent studies suggest that replacing some meat with plant-based protein sources like legumes may offer advantages.

Beans, lentils, and other legumes are packed with protein, fiber, and various essential nutrients, making them excellent choices for a balanced diet. They offer a versatile culinary canvas, easily incorporated into various dishes like soups, stews, salads, and even vegetarian burgers.

This dietary shift not only potentially benefits your health but also contributes to environmental sustainability. Meat production often carries a significant environmental footprint, making plant-based alternatives increasingly attractive for a more eco-conscious approach to food consumption.

Remember, it's always recommended to consult a healthcare professional or registered dietitian for personalized advice tailored to your specific needs and health goals. However, this trend towards increasing plant-based protein and reducing meat consumption highlights the potential for delicious, nutritious, and environmentally friendly dietary choices.

Reference:

Rose, A.J., Rusu, P.M. A leucine–macrophage mTORC1 connection drives increased risk of atherosclerosis with high-protein diets. *Nat Metab* 6, 203–204 (2024). <https://doi.org/10.1038/s42255-023-00952-2>

Human Cells Possess Resonant Frequency

A new study led by Javier Tamayo and his colleagues reveals that human cells possess resonant frequencies, similar to



how tuning forks vibrate at specific pitches. This groundbreaking discovery

could revolutionize our understanding of cellular mechanics and pave the way for novel medical applications.

Researchers observed unexpected movements in microscopic beams when placed with human cells, suggesting the cells themselves were vibrating. Further investigation identified two distinct frequency ranges, potentially offering a new way to study and interact with individual cells.

Beyond the fascinating notion of "hearing" cells vibrate at a certain frequency, the study holds significant promise. It opens doors for analyzing cell behavior, potentially leading to the development of "vibrational spectrometry" for studying cells in their natural state. Additionally, researchers envision using these frequencies to detect and potentially treat diseases by targeting specific frequencies of diseased cells.

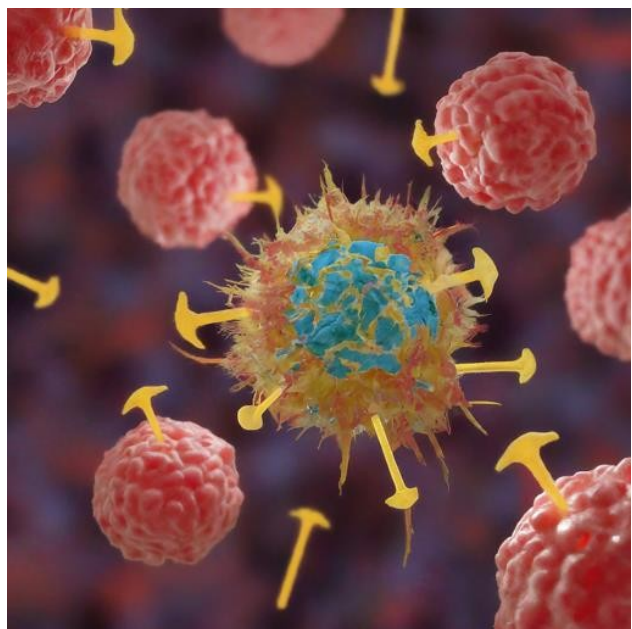
This discovery marks a significant leap in cell biology, with the potential to unlock groundbreaking advancements in healthcare and beyond. The study paves the way for further exploration of this exciting new frontier in understanding the intricate world of cells.

Reference:

Puerto-Belda V, Ruz JJ, et al. Measuring Vibrational Modes in Living Human Cells. *PRX Life* 2, 013003 – Published 18 January 2024

"Molecular Jackhammers": New Technique Shows Promise in Eradicating Cancer Cells

Researchers have developed a novel approach to fighting cancer, dubbed "molecular jackhammers." This innovative method utilizes vibrations at specific frequencies to destroy cancer cells while leaving healthy cells unharmed.

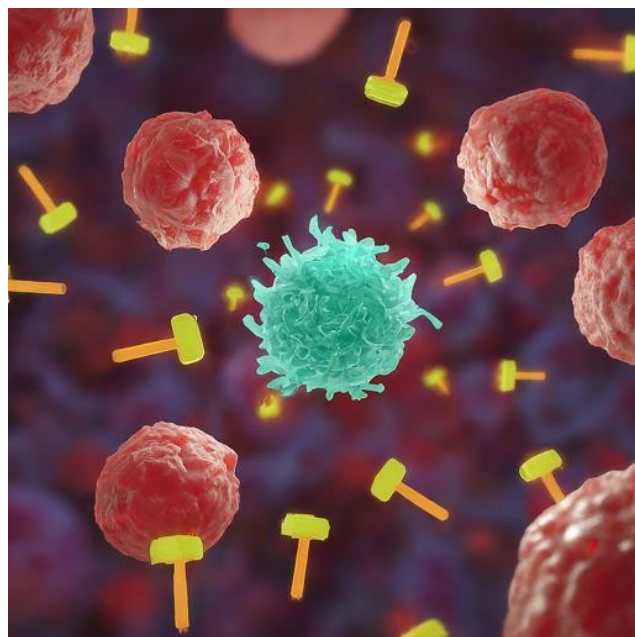


The technique involves attaching specially designed molecules, called "aminocyanines," to the membranes of cancer cells. When exposed to near-infrared light, these aminocyanines vibrate rapidly, disrupting the cell's internal processes and ultimately leading to its death.

This research, published in *Nature Chemistry*, represents a significant advancement in cancer treatment. Unlike traditional methods, such as chemotherapy, which can harm healthy cells along with

cancerous ones, molecular jackhammers offer a more targeted approach. Additionally, researchers believe that cancer cells are unlikely to develop resistance to this mechanical method of cell destruction.

The study, led by Dr. Ciceron Ayala-Orozco from Rice University, demonstrated complete eradication of human melanoma cells in laboratory experiments. Furthermore, they achieved a 50% tumor-free rate in mouse models, showcasing the technique's potential for real-world application.



The researchers are currently exploring the development of various molecules that can be utilized in this "jackhammering" approach. This has the potential to not only target cancer but also manipulate other cellular processes such as enzyme activity and protein function.

While further research is needed, "molecular jackhammers" offer a promising new avenue in the fight against cancer. This innovative method holds the potential to revolutionize cancer treatment by offering a safer and more targeted approach to eliminating cancerous cells.

Reference:

Ayala-Orozco, C., Galvez-Aranda, D., Corona, A. et al. Molecular jackhammers eradicate cancer cells by vibronic-driven action. *Nat. Chem.* (2023). <https://doi.org/10.1038/s41557-023-01383-y>

The Cause of Brain Fog in Long COVID Identified

A new study published in *Nature Neuroscience* sheds light on the potential causes of "brain fog," a common symptom experienced by many individuals with long COVID. Researchers from Ireland found evidence suggesting that disruptions in the blood-brain barrier (BBB) and a hyperactive immune system might be key contributors to this cognitive impairment.

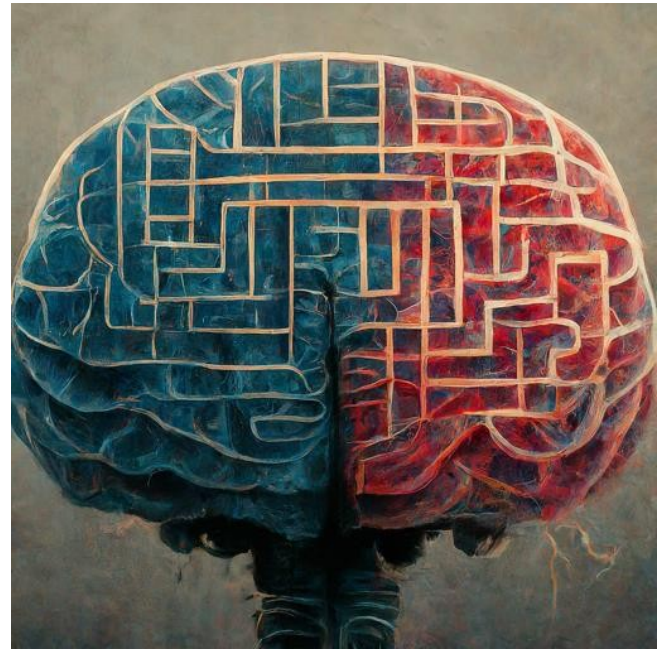
What is the blood-brain barrier and why is it important?

The BBB acts as a selective barrier, separating the bloodstream from the brain tissue. It plays a crucial role in protecting the brain from harmful substances and maintaining a healthy environment for optimal functioning.

Study findings:

Blood tests: Researchers compared blood samples from individuals with long

COVID and brain fog to those without brain fog and individuals without COVID-19. They found elevated levels of a protein (S100 β) in the blood of individuals with brain fog, indicating potential damage to brain cells and a possible "leak" in the BBB.



Brain scans: Using MRI scans, the team observed a leaky BBB in long COVID patients with brain fog compared to other long COVID patients and recovered individuals.

Immune system: The study also found increased levels of clotting markers in the blood of long COVID patients with brain fog, suggesting a potential role of the immune system in the development of this symptom.

Implications:

These findings suggest that targeting leaky blood vessels and managing the immune system might be potential avenues for future treatment strategies for long COVID-related brain fog.

Significance:

This research offers valuable insights into the possible mechanisms behind brain fog in long COVID. Understanding the underlying causes is crucial for developing effective treatments to alleviate this debilitating symptom and improve the quality of life for affected individuals.

Reference:

Greene, C., Connolly, R., Brennan, D. et al. Blood–brain barrier disruption and sustained systemic inflammation in individuals with long COVID-associated cognitive impairment. *Nat Neurosci* (2024). <https://doi.org/10.1038/s41593-024-01576-9>

Recent FDA Medication/Supplement December Recall

Recall Date	Brand Name	Product Description	Recall Reason Description	Company Name
1/29/2024	Neptune's Fix	Neptune's Fix Elixir, Neptune's Fix Extra Strength Elixir, and Neptune's Fix Tablets	Undeclared Tianeptine	Neptune Resources, LLC
1/31/2024	Quaker	Quaker Chewy Dipps Llama Rama bars and more	Potential for Salmonella contamination	The Quaker Oats Company
2/1/2024	Sam Sung	Soy Bean Sprouts	Potential Listeria monocytogenes contamination.	Nam & Son
2/2/2024	TING	1% Tolnaftate Athlete's Foot Spray Antifungal Spray Liquid	Potential for Salmonella contamination	Insight Pharmaceuticals
2/5/2024	Arize	Arize brand male enhancement capsules	Products contain undeclared Nortadalafil	Today the World
2/5/2024	Sustain, Schwinning	Sustain and Schwinng brand male enhancement capsules	Products contain undeclared Tadalafil and Nortadalafil	Today the World
2/5/2024	Covidien and Cardinal Health	Expanded list of Urology and OR room specific kits and trays	Potential lack of sterility assurance which could result in non-sterile product	Cardinal Health
2/7/2024	Rizo Brothers California Creamery	Cheese, Yogurt, Sour cream	Expanded recall for potential Listeria monocytogenes contamination	Rizo Lopez Foods, Inc.

2/7/2024	Rojo's	Black Bean 6 Layer Dip	Potential for Listeria monocytogenes contamination	Simply Fresh LLC
2/7/2024	Don Pancho, HEB Trader Joe's	Cilantro Lime Crema, Everything Sauce Fiesta, Cilantro Cotija dressing, Poblano Caesar dressing, Cilantro Dressing, Street Taco Express Meal Kit	Potential Listeria monocytogenes contamination	Fresh Creative Foods
2/8/2024	Bright Farms	Bright Farms Southwest Chipotle Crunch Kit salad kit	Potential Listeria monocytogenes contamination	BrightFarms, Inc.
2/8/2024	Marketside, Ready Pac Bistro	Southwest Chopped Salad Kit, Bacon Ranch Crunch Kit, Fresh Mex Chopped Kit, Queso Crunch Salad Kit	Potential Listeria monocytogenes contamination	Ready Pac Foods, Inc.
2/8/2024	Trader Joe's	Chicken Enchiladas Verde, Cilantro Salad Dressing, Elote Chopped Salad Kit, Southwest Salad	Potential Listeria monocytogenes contamination.	Trader Joe's Company
2/9/2024	Fresh Express, marketside	Fresh Express Salsa! Ensalada Kit, Marketside Southwest Chopped Salad Kit	Potential Listeria monocytogenes contamination.	Fresh Express
2/9/2024	Fresh and Ready, Sprig and Sprout, Jack and Olive	Torta sandwiches	Potential Listeria monocytogenes contamination	Fresh and Ready Foods

Case 14: 90-year-old male with recurrent coughing, a revisit of Case #9 from July 2023

What's the probability of 5-year survival for this 90-year-old male with chronic cough?

The following real-life case examples are hypothetical stories in the palliative or hospice care settings, imagined by the author with the help of artificial intelligence. Frailty scores are commonly used not only to decide if a patient should be placed in palliative or hospice care but also to assess whether the patient is a suitable candidate for major surgery in the case of surgical intervention. Unfortunately, patients with low frailty scores often do not survive five years after a major health crisis. No one is no exception since everybody eventually succumbs to the law of gravity.

Michael Moore, a 90-year-old white man, suffers from respiratory problems caused by chronic cough and excessive mucus secretion. He agreed to participate as the first experimental subject in a study investigating the effects of *Lactobacillus johnsonii* supplementation on his condition. He was stable on the following final regimen:

Azelastine nasal spray 1 puff into each nares twice a day

Guaifenesin SR (long-acting) 600 mg daily

Lactobacillus johnsonii with the following directions:

¼ teaspoon (240 billion CFU) mixed with water in medicine cup once daily by mouth

Q-tip swab soaked with the above admixture into nares once daily.

However, he returned with intermittent cough of 1-second duration every 5-10 minutes, which was far better than continuous cough with heavy blood-tinged phlegm. He had been tapered off budesonide/formoterol (160/4.5) inhaler 2 puffs twice a day in consultation with his Kaiser pulmonologist.

Patient Background

The patient is a 90-year-old man with a significant medical history, including:

Atrial fibrillation: An irregular heartbeat condition.

Transient ischemic attack (TIA): A brief stroke-like episode in 2019.

Bacterial pneumonia: Lung infections in 2009 and 2017. In 2017, he was discharged

Michael Moore

*All patient data is fictional and imagined by the author with AI assistance. Safe Health Report complies fully with US HIPPA regulations.

Age:90

Sex:male

Weight:115 pounds

Height:5 feet 5 inches

Activities of Daily Living (ADL) components: transfer, bed mobility, toileting, and eating

▪ 0 – Independent: If the resident completed the activity with no help or oversight every time during the 7-day prior period.

▪ 1 – Supervision: If oversight, encouragement, or cueing was provided three or more times during prior 7 days.

▪ 2 – Limited Assistance: If resident was highly involved in the activity and received physical help in guided maneuvering of limb(s) or other non-weight-bearing assistance three or more times during the last seven days.

▪ 3 – Extensive Assistance: If resident performed part of the activity over the prior 7 days, help of the following type(s) was provided three or more times: ▪ Weight-bearing support provided three or more times. ▪ Full staff performance of activity during part, but not all, of the prior 7 days.

▪ 4 – Total Dependence: If there was full staff performance of an activity with no participation by the resident for any aspect of the ADL activity. The resident must be unwilling or unable to perform any part of the activity over the entire prior 7-day period. ▪ 7 – Activity occurred only once or twice: If the activity occurred but not 3 times or more. ▪

8 – Activity did not occur: If, over the prior 7-day period, the ADL (or any part of the ADL) was not performed by the resident or staff at all. ADL support measures the most support provided by staff over the prior 7 days.

*Adapted from Minnesota Department of Health Guideline

Michael's ADL Score 0

on a home hospice program after refusing a pleural effusion tap (a procedure to drain fluid from the lungs).

Chronic cough with blood-tinged sputum:
Ongoing issue since 2006.

Smoking history: Smoked for 26 years (age 21-47).

Recent Medical History

Primary care visits: The patient has seen his primary care doctor four times in the past year

Eye of the Tiger Test for Michael Moore
*All patient data is fictional. Safe Health Report complies fully with US HIPPA regulations.

Clinical Frailty Score

- 1 – Very Fit: Very fit for their age with no disease symptoms, very active, and exercise regularly- 5 days a week
- 2 – Fit: Still no active disease as in 1 but exercise only occasionally – three times a week or only seasonally
- 3 – Managing Ok: Disease symptoms are well managed. Not able to exercise at all other than walking.
- 4 – Very Mild Frailty: Symptomatic disease. Not dependent on others for daily activities but disease symptoms slow down their activities. May need a cane for walking occasionally for example
- 5 – Mild Frailty: Symptomatic disease limits daily activities. Needs walkers. Needs help with walking and shopping.
- 6 – Moderate Frailty: Needs help with walking, shopping, climbing stairs, and bathing with disease progression.
- 7 – Severe Frailty: Completely dependent for personal care and daily activities but seem stable and at risk of death within the next 6 months.
- 8 – Very Severe Frailty: Same as 7 but unstable and even mild illness is likely to cause death.
- 9 – Terminally III: As in 8 but not likely to live next 3-6 month.

*Adapted from [Rockwood & Theou 2020](#)

Michael's Frailty Score 3

for his chronic cough.

In early 2023, he was hospitalized for pneumonia and pleural effusion and discharged to a home hospice program after refusing a pleural effusion drain and tap to rule out a malignant source (a procedure to drain fluid from the lungs).

Normal imaging: Chest X-ray and CT scan have not shown any abnormalities.

Pulmonologist referral: Due to the persistent cough and mucus production, the patient was referred to a pulmonologist (lung specialist).

Pulmonologist Evaluation and Treatment

Diagnosis: The pulmonologist diagnosed the patient with mild asthma.

Prescribed medications:

Budesonide/formoterol inhaler (steroid and bronchodilator combination)

Azelastine nasal inhaler (antihistamine)

Loratadine (oral antihistamine)

Non-prescribed regimen:

***Lactobacillus johnsonii* with the following directions:**



¼ teaspoon (240 billion CFU) mixed with water in a medicine cup once daily by mouth

Q-tip swab soaked with the above admixture into nares once daily.

Trial period: The patient was instructed to try each medication for two weeks to determine the most effective treatment.

Budesonide inhaler was dropped due to lack of efficacy for cough.

After the two-week trial of each of the medications, he was maintained on:

Azelastine nasal spray 1 puff into each nares twice a day

Guaifenesin SR (long-acting) 600 mg daily, he had been maintained on:

Azelastine nasal spray 1 puff into each nares twice a day

Guaifenesin SR (long-acting) 600 mg daily

Lactobacillus johnsonii with the following directions:

¼ teaspoon (240 billion CFU) mixed with water in a medicine cup once daily by mouth

Q-tip swab soaked with the above admixture into nares once daily.

The patient stated he stopped taking Guaifenesin SR (long-acting) daily due to the high-cost burden. However, because he had previously responded well to the medication and given the affordability of the immediate-release version, guaifenesin was reintroduced at a dose of 400mg twice a day. This decision was based on the fact that 15 tablets of the immediate-release version can be purchased at Walmart for a very low price (\$0.87). It is important to note that this change was made without consulting a healthcare professional and may not be the safest or most appropriate course of action for all individuals.

A week later, he shows no more coughing and can perform daily activities including driving to grocery stores.

Conclusion:

Take Home Lesson:

- ✓ **Medication compliance is very important even for 90-year-olds.**

- ✓ **It is important to note that newer pre-clinical discoveries in the field of medical science may not be adopted into standard medical practice for a long time. However, these discoveries may still offer therapeutic potential for patients where currently available therapy is exhausted in certain special situations. As such, it may be reasonable to explore the use of new therapies that are supported by strong scientific evidence, even if they have not yet undergone clinical trials.**
- ✓ **According to the medical evidence pyramid, this type of evidence has the lowest level of clinical validity and reliability if any.**
- ✓ **Please consult your primary care physician (PCP) before trying any of this.**

MrGineaPig's Core Long-Term Trial

LONG-TERM TRIAL	SUPPLEMENT	START DATE	
Muscle Weakness	Hyaluronic Acid	07/01/2019	50 mg-1 capsule daily
Back Pain	Pantothenic acid	09/1/202	500 mg 1 capsule daily
	Pantethine	09/01/2022	450 mg 1 capsule daily
Mealtimes	Breakfast 09:00 -Lunner (13:00)	01/07/2023	+Salad with Balsamic Vinegar Lunner = Lunch + Dinner
BPH Prevention	Lycopene	01/31/2024	20 mg daily

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Risk Factors for Premature or Unexpected Death

Immediate Risks	Internal Threat	External Threat	Other Topics
<ol style="list-style-type: none"> COVID-19 JN.1 RSV Flu Fentanyl death Drug shortages Gun violence 	<ol style="list-style-type: none"> Poor diet Smoking High blood pressure Obesity Sedentary Lifestyle Suicide 	<ol style="list-style-type: none"> War Microplastics FDA recalls Meat preservatives Trans fatty acid Pesticides Heavy metals 	<ol style="list-style-type: none"> Shortness of breath Back pain Hemorrhoids Incontinence Joint swelling Fibromyalgia Health Insurance

Topics Chosen: Covid-19 update, Clostridium difficile, Search of Best Diet Series

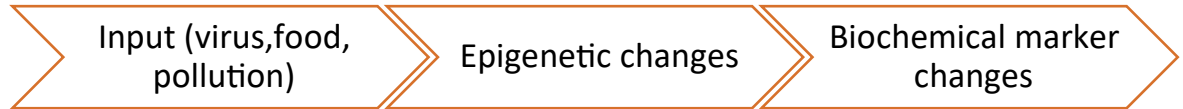
Format of Safe Health Report

Section 1: Conditions or internal environment that increases the risk of premature death or

pose an immediate danger to your health (both mental and physical) as in an avalanche.

Section 2: External environment that increases premature death, FDA recalls.

Section 3: Case examples of premature death. If you are in a similar situation, remove yourself out of harm's way! Can we extend **our expiration dates** when in the eye of the storm before disease strikes at a tissue level. Remember epigenome is what activates a specific set of genes.



Purpose of Safe Health Report

If you feel you are being used by someone or somebody or institution or institutionalized philosophy or even by your parents or siblings or your coworkers or even your boss, you are a GineaPig. This newsletter is designed to empower GineaPigs in the area of human health and possibly decrease the risk of **premature death**.

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