Common Food Additives May Act Like Added Sugars, New Study Reveals

4 MIN READ

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New research reveals that food additive thickeners like cellulose gum, common in sodas, shakes, sauces, and plant-based foods, may not be as inert as once believed.

For decades, food scientists have told us that thickeners like cellulose gum and methylcellulose, common in salad dressings, sauces, baked goods, soda, dairy, oat milk, protein shakes, plant-based meats, and even pharmaceuticals, pass straight through the body, inert and calorie-free. But new research suggests that story may not be quite so simple.

A study published in the ***Journal of Bacteriology*** found that certain gut microbes, particularly strains of *Segatella* (close relatives of *Prevotella*), can break down these additives, but only after being "primed" with natural plant fibers like oats or beans. In other words, when you eat processed foods containing cellulose additives alongside whole plant foods, your gut bacteria may be able to unlock hidden sugars and calories from ingredients once thought indigestible.

Common Food Additives May Not Be Inert

- **Can Act Like Sugar:** These cellulose derivatives are made from glucose chains. Under

the right conditions, some gut bacteria can free up portions of that glucose.

- **May Add Calories:** While we don’t yet know how many calories they contribute, this finding challenges the assumption that these additives are metabolically invisible.
- **Your microbiome matters:** Some people’s gut bacteria are more efficient at this breakdown than others, so the effect isn’t one-size-fits-all.

What are these additives?

Cellulose derivatives, like cellulose gum (E466), methylcellulose (E461), and hydroxypropyl methylcellulose (E464), are chemically modified forms of plant fiber. They’re made from glucose chains, which is why researchers are now questioning whether they may act more like sugar than once believed.

Manufacturers use them as thickeners, stabilizers, and emulsifiers. They keep sauces smooth, give plant-based meats a meat-like texture, prevent drinks from separating, and extend shelf life. They’re also in pharmaceuticals (to bind pills) and even toothpaste (to create that gel-like feel).

How do we find them on labels?

Look for names like cellulose gum, methylcellulose, hydroxypropyl cellulose, or hydroxypropyl methylcellulose. Sometimes they appear as E-numbers 461–468. These show up most often in:

- Sauces, gravies, and dressings
- Dairy and non-dairy creamers
- Sodas, shakes, and meal replacements

- Plant-based meats and baked goods
- Toothpaste and oral medications

How can we replace them or find alternatives?

- **Read labels:** If “cellulose gum” or E-numbers 461–468 appear near the top of the ingredient list, that food is relying heavily on additives.
- **Choose whole foods first:** Fresh produce, **whole grains**, and minimally processed dairy or plant proteins don’t need thickeners.
- **Seek clean-label swaps:** Many brands now offer additive-free dressings, oat milks, and protein shakes that use natural stabilizers like chia, flax, or pectin.
- **DIY simple foods:** Blending your own smoothies, making salad dressings with olive oil and lemon, or choosing plain yogurt instead of flavored helps avoid hidden extras.

You don’t need to panic over a single oat milk latte or spoonful of ketchup. But small, hidden metabolically active additives can add up, especially over decades. And, we know the research shows that processed foods are terrible for longevity. This is just one more reason to choose simple, whole ingredients wherever you can. Awareness is power: minimize reliance on processed foods, and you’ll reduce exposure to “invisible” extras while strengthening your metabolic resilience.

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