Villain 2: Excitotoxins



### **How to Find Excitotoxins in Food:**

**The ingredient list is where these little buggers are hiding in plain sight.**

Some foods have higher concentrations of glutamate than others. All of these should be used rarely and extremely cautiously in your diet, while others like MSG and High Fructose Corn Syrup (HFCS) should be eliminated completely.

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### **Why Excitotoxins Are Bad:**

Ahww, look how cuuuuute! Excitotoxins are the most devious of the Society of 5 because their job is to make you feel warm and fuzzy inside. They give food flavor that is nearly impossible to resist. Just look at them, who could say no to that little guy?!

But as they look at you all cute and friendly, they are using their evil powers on your brain chemistry and rewiring how you taste, what you eat, and how you think. Excitotoxins are substances that overstimulate nerve cells in the body, particularly in the brain and spinal cord. They directly cause enzymes to be made by mistake, and then infuse these enzymes into your cells causing damage to cell structures, and even your DNA itself!

When you eat excitotoxins, their effects accumulate over time. You may notice ***migraines, headaches, epilepsy, schizophrenia, neurological disorders like Alzheimer’s disease, Parkinson’s disease, and multiple sclerosis (MS), behavioral and cognitive issues like ADHD and Autism, and sensitivities and allergies causing reactions with symptoms like chest pain, sweating, flushing, and tingling sensations.***

### **Look for these in the food label’s ingredient section:**

**Monosodium Glutamate (MSG):** This is one of the most well-known glutamate-containing additives and is often listed by its full name, “Monosodium Glutamate,” or simply as “MSG.”

**Natural Flavors**: The term “natural flavors” can encompass a wide range of compounds, some of which may contain glutamate-rich ingredients. Because they have a slightly different chemical carbon formation, it’s not EXACTLY the same as MSG. That means food producers can legally have this practically-100% MSG substance in their product without having to call it MSG. Villainous!!

**High Fructose Corn Syrup (HFCS):** Eating HFCS in our diet increased more than 1,000 percent between 1970 and 1990, and is a main factor in our current obesity epidemic. Found in sodas, breads, and even ketchup, high fructose corn syrup is also directly linked to increasing diabetes, inflammation, high triglycerides, and non-alcoholic fatty liver disease.

**Processed and Packaged Foods:** Many processed and packaged foods, such as chips, crackers, canned soups, and processed meats, may contain MSG as a flavor enhancer. These foods can contribute to elevated glutamate intake.

**Fast Food:** Fast food establishments often use MSG in their food preparation to enhance flavor. Burgers, fries, and other fast food items can be sources of elevated glutamate levels.

**Carrageenan:** Found in many “healthier” vegan and plant-based foods, it’s considered to be more natural because it comes from red seaweed (a member of the linear sulfated biopolysaccharides family). It is a known excitotoxin.

**Autolyzed Yeast Extract:** This ingredient is used to enhance flavor and contains naturally occurring glutamate from yeast.

**Hydrolyzed Vegetable Protein (HVP):** HVP is a common flavor enhancer made from hydrolyzing vegetable proteins, and it can contain glutamate.

**Yeast Extract:** Yeast extract is used for its savory flavor and contains naturally occurring glutamate from yeast.

**Disodium Guanylate:** This flavor enhancer is sometimes used in combination with MSG to enhance umami taste.

**Disodium Inosinate:** Similar to disodium guanylate, disodium inosinate is another flavor enhancer used with MSG to boost umami flavor.

**Calcium Caseinate:** Calcium caseinate contains glutamate and is a protein derived from milk found in cheese, butter, yogurt, sour cream, cottage cheese, whey, casein, and sodium caseinate. It’s also found in wheat products like most breads, spaghetti, noodles, pasta, most flour, baked goods, durum semolina, farina, and many gravies.

**Soy Protein Extract:** This ingredient can contain naturally occurring glutamate from soy protein.

**Textured Vegetable Protein (TVP):** TVP is made from soy protein and can contain naturally occurring glutamate.

**Soy Sauce:** Soy sauce is known for its high glutamate content, which contributes to its savory umami flavor. Dishes containing soy sauce may have increased glutamate levels.

**Meat and Seafood:** Meats and seafood contain glutamate as a naturally occurring amino acid. While this is not typically a problem, processed and cured meats (e.g., bacon, sausages, cold cuts) may have added MSG or other glutamate-containing additives.

**Bouillons and Soup Bases:** Bouillon cubes, soup bases, and many instant noodle seasonings contain MSG and contribute to elevated glutamate intake in soups and broths.

**N-Methyl-d-aspartame (NMDA):** side effects caused by eating NMDA include dizziness, confusion, headache, constipation, cough, hypertension, backache and pain.

**Aspartame:** Originally created in a lab as an anti-ulcer drug, it was found to have a sweet flavor and was sold as an artificial sweetener. Aspartame is now a known neuropoison. It’s sold to us in artificial sweeteners like NutraSweet, and can increase the stress hormone cortisol, putting us in us a constant state of feeling stressed. Studies have linked aspartame to a number of health issues, including cancer, cardiovascular disease, Alzheimer’s disease, seizures, stroke, dementia, mood disorders, headaches and migraines, glucose intolerance, and fatty liver disease.

Bet you’re not gonna reach for that sugar-free chewing gum with aspartame anymore, huh?

### **The Antidote - Balancing The Risks**

Good news: like Trans fats, there is an antidote to excitotoxins. To balance the risk of eating excitotoxins, focus on foods that support brain health, reduce inflammation, and enhance the detoxification process. These foods provide protective nutrients, antioxidants, and compounds that help mitigate the potential adverse effects of these little villains. Variety and being as natural as possible is the key, specifically with options like these:

**Foods That Balance Excitotoxin Risk**

**1. Rich in Antioxidants**

Antioxidants neutralize free radicals and protect neurons from excitotoxic damage.

Berries: Blueberries, raspberries, blackberries, and strawberries contain anthocyanins and flavonoids that support brain health.

Leafy Greens: Spinach, kale, and Swiss chard are rich in lutein, zeaxanthin, and vitamins C & E.

Turmeric: Contains curcumin, a powerful anti-inflammatory and antioxidant compound.

**2. High in Omega-3 Fatty Acids**

Omega-3s support the brain’s structural integrity and reduce inflammation.

Fatty Fish: Salmon, sardines, mackerel, and anchovies are excellent sources of EPA and DHA.

Chia Seeds: Provide plant-based omega-3s in the form of alpha-linolenic acid (ALA).

Walnuts: Rich in ALA and antioxidants, beneficial for brain health.

**3. Rich in Magnesium**

Magnesium helps block NMDA receptors, which are overactivated by excitotoxins.

Nuts and Seeds: Almonds, cashews, sunflower seeds, and pumpkin seeds.

Legumes: Black beans, chickpeas, and lentils.

Whole Grains: Quinoa, brown rice, and oats.

**4. Boost Detoxification**

These foods enhance the body’s ability to clear harmful substances, including excitotoxins.

Cruciferous Vegetables: Broccoli, cauliflower, Brussels sprouts, and kale contain sulfur compounds that support liver detoxification.

Garlic and Onions: Rich in sulfur compounds that enhance glutathione production, the body’s master antioxidant.

Cilantro and Parsley: Aid in detoxification of heavy metals and other toxins.

**5. Support Gut Health**

A healthy gut-brain axis can reduce inflammation and improve resilience to excitotoxins.

Fermented Foods: Kimchi, sauerkraut, kefir, yogurt, and miso provide probiotics.

Prebiotic-Rich Foods: Bananas, asparagus, garlic, onions, and Jerusalem artichokes.

Bone Broth: Supports gut lining integrity and overall digestive health.

**6. Anti-Inflammatory Foods**

These reduce systemic inflammation, which exacerbates excitotoxin effects.

Olive Oil: Rich in polyphenols and monounsaturated fats.

Avocados: Contain anti-inflammatory fats and antioxidants.

Ginger: Contains gingerol, a compound with strong anti-inflammatory properties.

**7. High in B Vitamins**

B vitamins support brain function and help mitigate excitotoxin effects.

Eggs: Contain choline, a precursor to acetylcholine, important for brain health.

Nutritional Yeast: A source of B-complex vitamins, particularly B6 and B12.

Whole Grains: Brown rice, oats, and barley provide B vitamins like folate and thiamine.

**Dietary Approach**

Eliminate or Limit: Foods containing MSG, hydrolyzed proteins, and artificial sweeteners.

Prioritize Fresh, Whole Foods: These are naturally free of excitotoxins and rich in protective nutrients.

Maintain Variety: Rotate foods to ensure comprehensive nutrient coverage.