

# Curcumin Powerhouse

“Curcumin has the ability to neutralize inflammation and combat smoldering infections, as well as activate the body’s natural antioxidants.”

All of us have been impressed with curcumin and its multiple roles. For starts, it has anti-malarial, antibacterial, antiviral, anti-inflammatory, antioxidant, anti-proliferate, antiseptic, and anti-angiogenic properties in humans. “That’s a lot of anti’s.”

Some authors have called curcumin the king of anti-inflammatory substances, but recently, I've become aware of all its impressive brain enhancing properties. For example, amyloid plaque has been associated with Alzheimer's and Parkinson's disease. Studies have shown that curcumin reduces amyloid plaque by at least 8 different mechanisms. The most destructive form of amyloid plaque is called oligomers. Oligomers act like caustic balls of goo slowly burning neurons and neuron connections. In very small amounts, curcumin reduces the amount of oligomers, as well as reducing its toxicity.

Here's another benefit. As we age, toxic metals, particularly iron, begin to accumulate in parts of the brain, especially after an injury or in Alzheimer's and Parkinson



patients. Curcumin easily enters the brain and acts as a heavy metal chelator to neutralize toxic metals.

Studies have also shown that the brains of Alzheimer's patients have very low levels of glutathione. Curcumin naturally raises glutathione levels.

On another front, one of the most destructive oxidative substances is peroxynitrite. Both curcumin and glutathione are important to neutralize it.

In the past, we've talked about the brain's immune system, microglia. There are positive and negative forms of

microglia. Curcumin can help transition the negative forms into positive forms. Based on curcumin's ability to neutralize inflammation, combat smoldering infections, as well as activate the body's natural antioxidants, it comes as no surprise that scientists are actively studying curcumin's ability to fight cancer.

I've attached an article by *Life Extension* that describes some of the ways that curcumin can prevent cancer, but let's focus on 3 of them.

1. Curcumin down regulates or inhibits two important cell signaling pathways, mTOR and NF-kB. MTOR is a master

cellular regulator. Anything that stimulates mTOR shortens lifespan. Anything that inhibits mTOR extends lifespan. NF-kB is like a dormant genetic amplifier. It's present in every cell, but once it gets activated, inflammation and cellular destruction are the result. Curcumin inhibits both.

2. Curcumin causes the death of cancer cells through apoptosis. Also, curcumin assist cancer cell destruction through autophagy, where parts of the cell are cannibalized.

3. Thirdly, curcumin activates Nrf2, nuclear response factor type 2. Nrf2 is something we will hear a lot about in the future because among other things, it increases the antioxidant response for critical enzymes like superoxide dismutase and glutathione peroxidase. Nrf2 also protects the brain against toxic metals, pesticide and herbicide toxicity.

And of course we can't do a Tuesday Minute without mentioning that curcumin also supports or maintains intestinal barrier function. This, by the way, may be the underlying mechanism that reduces systemic inflammation.

It's the oil fraction of the turmeric root that contains curcumin. The challenge is how to get the oil from the root into our cells without eating 10 grams a day of material that stains our teeth and clothes. It's a very safe and effective food dye.

To optimize the potential health benefits, a number of emulsification methods have been developed to enhance the absorption of curcumin. You are probably not aware that for over 40 years, one of Biotics Research's specialties has been the technology involved in emulsification as a delivery system for fat soluble nutrients. So they are no stranger to the

research and side effects of many emulsification agents. When they found a supplier using "turmeric root nutrients" as emulsifying agents they were excited. The research shows absorption is 5-6 times greater than the other leading emulsifiers.

CurcumRx is a new product using this patented emulsification technology. CurcumRx contains only natural turmeric compounds and delivers a range of over 200 beneficial turmeric nutrients. Typically 500 mg of CurcumRx provides 232.5 mg of curcumin, recommended dose is 1 bid.

I want to remind you that to extract curcumin, solvents are typically used to remove it from the dried turmeric root. The manufacturing process may use innocuous solvents like isopropyl alcohol or acetone. However, other solvents have been detected by Biotics. One such compound 1,2-dichloroethane, which is a class one toxic solvent, was found in curcumin powder for sale as a raw material.

The EPA sets an upper safety limit of 5 ppm. Researchers at Biotics found 139.3 ppm, nearly 30 times above the acceptable limit. This raw material was clearly a toxic compound and not suitable for human consumption. Solvent residue testing is not required by GMP, good manufacturing practices. Who tests for residues of solvents? Well, Biotics does.

Heavy metals, aflatoxins, solvents, and bacteria are examples of the things Biotics screens on every ingredient in every product. Again, this is why you can recommend Biotics products to your patients with confidence, that they are safe and consistent every time.

Thanks for reading this week's Tuesday Minute edition. I'll see you next Tuesday.