

GOOD BRAIN HEALTH THROUGH NUTRITION

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Making Brain Immunity Better

Microglia, the main immune cells in the nervous system, can react in two basic ways when they are stimulated: They can act to repair damage to neurons and their connections (called an M2 phenotype), or they can trigger intense immunoexcitotoxicity and destruction of surrounding neurons and their connections (called an M1 phenotype).

In neurodegenerative diseases, such as Alzheimer's disease and Parkinson's disease, the microglia appear to be mostly acting as destructive cells.

Based on the two natures of microglia, researchers have been looking for ways to make them switch from a destructive immune cell to a beneficial or reparative immune cell.

Normally, these brain immune cells can release certain cytokines that push the microglia toward being a reparative type, such IL-10 and IL-4.

But isolating these anti-inflammatory cytokines for use in medicine is very expensive.

According to a recent study in the "Journal of Neuroinflammation," it was discovered that stimulating cells to produce higher levels of a cell-signaling chemical called cyclic AMP could trigger microglia to switch to the beneficial phenotype.

This was done using both brain cell cultures and in animals.

In both cases, when cyclic AMP was increased, researchers saw a dramatic conversion of microglia from the inflammatory M1 phenotype to the beneficial M2 phenotype.

Cyclic AMP is a universal communication compound within all cells.

When it is increased, the compound has been shown to reduce blood clots, lower histamine release, improve heart muscle contractions, improve blood flow in arteries, improve thyroid function, and increase fat burning.

Clinically, it has also been shown to improve asthma, eczema and psoriasis, and reduce pressure within the eyeball, which relieves glaucoma symptoms.

In addition, cyclic AMP improves heart function in people with dilated cardiomyopathy and can lower blood pressure in people with hypertension.

In at least one study, the compound raised testosterone levels in men, improved muscle protein, and improved energy levels.

The main side effects (which are beneficial under certain circumstances) are an increase in stomach acid release and reduced blood coagulation.

The compound should not be taken by pregnant women or people on blood-thinning medications.

The usual dose is 250 mg of the 10 percent standardized extract taken twice a day with or without food; I would not exceed that dose.

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