



Dr. Douwes *informes!*



Taurin

Taurine a very important Amino acid for healthy brain function.

We believed and were taught in medical school that brain shrinkage was inevitable and irreversible. Actual research has shown that brain cells can regenerate and that the amino acid called taurine plays an important role in creating new brain cells. Taurine increases the growth of brain cells by activating "sleeping" stem cells. Taurine also increases the survival of new neurons, resulting in an increase in adult brain cell creation.¹⁻³ Taurine has unique biochemical properties that promote new brain cell formation.^{4,5} Animal studies show that taurine triggers new brain cells to grow in the hippocampus, the area of the brain most important for memory.^{1,6} This can lead to dramatic improvements in cognition and recall.^{7,8}

Low levels of taurine have been observed in patients with Parkinson's disease.^{9,10} In addition to these impressive brain benefits, taurine also boosts cardiac function and reduces arterial stiffness as well as reducing the negative impacts of metabolic syndrome.¹¹⁻¹⁶ In fact, taurine supplementation added to the drug metformin has been shown to offer tremendous reductions in tissue damage.¹⁷

Taurine levels fall significantly with age, leaving the brain, heart, kidneys, and other tissues deprived of this vital healing compound—one capable of rescuing dying cells and restoring cellular communication.^{1,6,18} We are beginning to recognize that with age, many can experience a taurine deficiency that is a real and fundamental threat to health.

Taurine Grows New Brain Cells

For years, scientists believed that brain shrinkage (atrophy) was an unstoppable degenerative process. New research shows that this loss of brain matter is partially caused by reversible processes.^{19,20} This knowledge opens the door to a new paradigm—one that aims to restore brain structure and function—as opposed to simply treating the symptoms. One of the chief requirements for growing fresh brain cells is a little known amino acid: taurine. Taurine has a surprising number of critical actions concerning how cells protect and renew themselves.

Because taurine levels decline with age, older adults are unable to maintain the level of new brain cell formation required to preserve their youthful responses to toxic and metabolic insults.^{1,21} This taurine deficiency may lie at the heart of some of our most dreaded brain disorders.²²

Studies now show that restoring taurine content in brain cells can reverse these trends, and rejuvenate brain structure and function. Animal studies show that taurine triggers new brain cells to grow in the hippocampus, a brain region centrally involved in memory.^{1,23}

A study published in the journal *Stem Cell Research* found that taurine supplementation in middle-aged mice increased the growth of new cells in regions of the brain associated with learning and memory. It accomplished this by activating "hibernating" stem cells that were then capable of maturing into several different kinds of cells.¹

In fact, one study showed that when human neural precursor cells (the early-stage neurons and supporting cells in the brain), were cultured with taurine, it produced significantly more brain cells, demonstrating how taurine stimulates stem-like cells to differentiate into functioning brain cells.²

In animals, taurine deficiency impairs brain growth by delaying normal neuronal development.² Lab studies show that taurine can reverse this problem. When taurine-deficient brain cells are grown in culture and then taurine is added, it results in a sharp increase in the development of new cells. This is attributed to multiple mechanisms of action, including improved mitochondrial function; activation of genes required for normal proliferation, survival, and energy functioning; ² and blocking chemical signals that inhibit neuronal cell regeneration.³

In addition to promoting the growth of new brain cells, taurine enhances neurites, which are tiny projections that help brain cells to communicate with each other. Neurites maximize connections between those cells, along which electrical impulses flow to support memory, cognition, feeling, and thinking. Over time, chemical stresses and toxins can damage these neurites, contributing to slower cognition in older people.²⁴

A lab study revealed that taurine restores normal neurite growth in nerves exposed to toxic chemicals, largely through its protective effects against chemical stresses.²⁵

The findings that taurine can genuinely rejuvenate damaged brains are truly revolutionary, and are beginning to change the way scientists and neurologists are thinking about age- and trauma-related brain changes.^{26,27}

Taurine's Benefits for Brain Conditions

Two specific conditions taurine has been shown to help benefit are Parkinson's disease and depression.^{22,28} Human studies show that taurine plasma levels are reduced in patients with Parkinson's disease, suggesting both a potential contribution to the disease—and a possible treatment.²⁸ This problem is compounded by the fact that standard treatment of Parkinson's symptoms involves the drug levodopa, which may further deplete taurine.²⁸ This makes it particularly important for Parkinson's patients to supplement with this versatile amino acid.

Supplementing with taurine is also important for those suffering from depression.²² Depression is particularly prevalent in diabetics; indeed, there's a strong school of thought that chronic blood sugar elevations are involved in depression and neurodegenerative disorders such as Alzheimer's disease.²⁹⁻³¹ Intriguingly, taurine supplementation in diabetic rats has been shown to improve depressive-like behaviors; in addition, supplementation improved the diabetes-damaged neurotransmitter function, which helped lead to improved short-term memory.³²

Summary

Taurine is a free amino acid that is vital in slowing key age-accelerating processes, particularly in the central nervous and cardiovascular systems. Taurine Promotes Brain Cell Regeneration. Laboratory studies show that taurine can achieve what was once thought to be impossible—stimulate new growth and connections of brain cells, which raises the real possibility for restoration of youthful brain function in older adults. Taurine levels decrease with age and with metabolic and neurological disease. Supplementation with taurine, in both animal and human studies, demonstrates the age-decelerating effects of this amino acid. Laboratory studies reveal dramatic improvements in cognition and memory in taurine-supplemented animals, and suggest that human supplementation might slow or reverse changes seen in Parkinson's disease. Taurine supplementation boosts cardiac function and reduces arterial stiffness, both contributors to early death from heart disease and stroke. Those with metabolic syndrome also stand to gain from taurine supplements, which substantially reduce that syndrome's negative impacts on cardiovascular risk.



Dr. med. Friedrich R. Douwes
Facharzt für Innere Medizin
Onkologisch verantwortlicher Arzt
Medikamentöse Tumorthherapie
Ärztlicher Direktor