

Lithium promotes Longevity, Mood, and Love.

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Unexpected results from a drug that is also an essential nutrient ...

Lithium is a brain food, with extraordinary properties, even in small amounts



Lithium has long been used as a mood stabilizer in the treatment of manic depression disorder. The first reported use was in 1949,¹ when Dr. John Frederick Joseph Cade, an Australian psychiatrist, reported the successful use of lithium in the treatment of manic depression disorder.

This was truly an important discovery because back then, the standard treatments for psychosis (which were electrically induced in anesthetized patients for therapeutic effect) and lobotomy (a neurosurgical procedure that severed connections to and from the prefrontal cortex, the anterior part of the frontal lobes of the brain). It was not until the 1950s that lithium became available to treat a mental illness. Horrah!

Lithium decreases mortality





Last January, we reported on a **lithium** study that heralded one the great adv (January 2011 issue). Researchers from Germany and Japan analyzed the mortality rate in 18 ad element **lithium** contained in tap water from the respective regions.² “We found that the mortalit the drinking water [bold added],” Professor Dr. Michael Ristow, the lead researcher explained.

Longer life from lithium

In other words, a regular small uptake of **lithium** can considerably promote longevity according t increased life expectancy in humans as well as in a model organism, the roundworm *Caenorhab* range of low concentration in the *C. elegans* and were able to confirm: “The average longevity of dosage [bold added],” Ristow said. “From previous studies we know already that a higher uptake psychological well-being and with decreased suicide rates [bold added],” Professor Ristow confir

Lithium promotes the formation of new brain cells

Lithium is a brain food, with extraordinary properties, even in small amounts. As Durk Pearson & **Sandy Shaw Way**” in the May 2004 issue):

“One hundred to 150 years ago, we didn’t have the kind of mechanistic medicine that we do now wasn’t much knowledge, even 100 years ago, about why things went wrong, but there was a lot [See “**SUNY’s Nobel sage: NO is beautiful**” on page 11.] That’s interesting, but it was only a d nitric oxide).

“In the case of **lithium**, the first clue that we got came from European health spas. Some minera people: the springs made them feel better—made them function better—and improved their men

Especially when they soaked in and drank the spa water for a month or two—long enough that s great reputation and its water is still bottled and sold all around the world. It contains 3.5 mg of li is a beneficial amount. While it is a common belief that **lithium** must be taken at the level of hun evidence continues to grow that it only takes a much smaller amount, say 7 mg/day, to have ben

Lithium reduces violent crime

A study published in 1990, conducted over a 10-year period in 27 Texas counties, found that tha

higher in counties whose drinking water supplies contained little or no **lithium** than in counties where researchers found that the people getting the higher levels of **lithium** had some beneficial mental health

The corresponding associations with the incidence rates of robbery, burglary, and theft were statistically significant. The effects on suicidal and violent criminal behavior at levels that may be encountered in municipal water supplies

When differences in **lithium** consumption were taken into consideration in the Texas counties, the derivatives (morphine, heroin, and codeine) also produced statistically significant inverse associations. The associations observed with the reported arrest rates for possession of marijuana, driving under the influence

In the lithium group, the total mood test scores increased during the four weeks of lithium supplementation and specific improvements in the subcategories reflected increases in happiness, friendliness, and

Even low-dose lithium has mood-altering effects

Altogether, these results suggest that **lithium** at low dosage levels has a generally beneficial effect on mood. **Lithium** as a nutritionally-essential trace element. The lead author, Dr. Gerhard N. Schrauzer, concludes that the evidence now appears to be sufficient to accept **lithium** as essential, with a provisional RDA for adults of 1 mg/day.

* Dr. Schrauzer originally became interested in lithium after growing up next to a “miracle spring” in a small town in the mountains of Colorado. (See **“Lithium is beautiful”** on page 11.)

Lithium may be good for Alzheimer's

There have been papers demonstrating that **lithium** can lower the neurotoxicity of amyloid-beta, a protein that is associated with Alzheimer's disease. According to Durk & Sandy, “[W]e’re talking about prevention, where a very small dose of **lithium** can plausibly produce some pretty big results years later. Also, researchers have found that **lithium** can help neurons protect themselves and grow rather than die off when they’re under stress ... such as brain-derived neurotrophic factor (BDNF) protecting neurons from damage and preventing them from dying. [bold added]”⁵ The same authors have found that **lithium** is effective in the treatment of mood disorders and in the activity of therapeutic agents in patients with mood disorders.⁶

Lithium found to enhance gray matter

Lithium has also been found to produce an increase in gray-matter portion of the brain consisting of the cerebral cortex and white matter.⁷ Alzheimer's disease (AD) actually causes the loss of neurons resulting in gray-matter loss.

diminishes. So **lithium** may be especially important for AD. In another study, long-term **lithium** treatment in areas where suicide was associated with decreased volumes.⁸

How does lithium work?

Aside from all of the referenced findings about **lithium** made in “**Lithium** promotes longevity, mood, and love,” other properties. These include its usefulness in the treatment of acute brain injuries such as from trauma, and neurodegenerative diseases such as Parkinson’s disease, Huntington’s disease, and amyotrophic lateral sclerosis. One of the properties of **lithium** is its anti-apoptotic action. Ethanol (drinking alcohol) is a neuroteratogen. Fetal alcohol *spectrum disorders* (FASD) are caused by excessive maternal ethanol exposure during pregnancy. Exposure to high amounts of alcohol causes *neuroapoptosis* (brain-cell suicide) in the developing brain. The nervous system underlies many of the behavioral deficits observed in FASD. Excessive alcohol causes neurodegeneration in the adult brain.

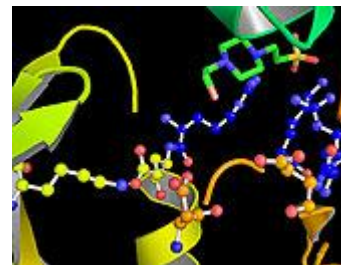


Fig. 1. The active site of GSK-3. The three residues in blue bind the priming phosphate on the substrate.

Recent *in vivo* and *in vitro* studies indicate that **lithium** is able to inhibit ethanol-induced neuroapoptosis (GSK3), which has recently been identified as a mediator of ethanol neurotoxicity (See Figure 1).

Accordingly, **lithium**’s neuroprotection may result from its inhibition of GSK3. As well, **lithium** promotes neuronal survival and differentiation. In fact, there is a multitude of recent evidence of **lithium**-mediated neuroprotection and underlying mechanisms.

Reference

1. Luo J. Lithium-mediated protection against ethanol neurotoxicity. *Front Neurosci* 2010 Jun 28;4:41.

Lithium found to increase neurogenesis, and memory

In the hippocampus, **lithium** was found to create new neurons (neurogenesis).⁹ The hippocampus is one of the few areas of the brain where it’s possible for new neurons to grow. So this finding is

dose **lithium** may protect the microstructure of the hippocampus in ultra high-risk for psychosis & in another study, low-dose **lithium** was found to help mice with traumatic brain injury, enhancing spatial learning in a water maze test.¹¹

Can lithium contribute to the feelings of new love?

A recent study has found that people with bipolar, depressive, and other psychiatric disorders are more likely than by subjects with these disorders testing high on anxiety and avoidance scale.¹² From the above studies, low-dose **lithium** can improve mood, and thus reduce anxiety.^{3,10-11}

Also, another study (see “**I’m in the mood for love**” in the November 2012 issue) identified a correlation between **lithium** and nerve growth factor (NGF) levels,¹³ and **lithium** increases NGF levels. In a recent review,¹⁴ “**Lithium** acts through the activation of the enzyme phosphatidylinositol 3-kinase (PI3K) [this enzyme phosphorylates and inhibits nuclear factors that turn on cell growth and protection & transcription factor β -catenin in the Wnt pathway]. In animals, **lithium** upregulates neurotrophins, (NT3), as well as receptors to these growth factors in brain [bold added].” In reference 13, “**Lithium** increases the intensity of romantic love as assessed with the passionate love scale.”

Also, according to that review, “**Lithium** also stimulates proliferation of stem cells, including bone marrow and forebrain. The stimulation of endogenous neural stem cells may explain why **lithium** increases brain neurogenesis.”

Lithium increases happiness, friendliness, and energy

In a placebo-controlled study with former drug users (mostly heroin and methamphetamines),¹⁵ subjects were randomly divided into two groups, one receiving 400 μ g of **lithium** per day in yeast, the other a placebo. Both groups completed mood test questionnaires. In the **lithium** group, the total positive mood test scores increased steadily across all subcategories reflecting happiness, friendliness, and energy. In the placebo group, the combined scores actually declined. **Lithium** is a sure bet to ensure your future, your mood, and perhaps even the

References

1. Cade JF. Lithium salts in the treatment of psychotic excitement. *Med J Aust* 1949 Sep 3;2(10):349-52.
2. Zarse K, Terao T, Tian J, Iwata N, Ishii N, Ristow M. Low-dose lithium uptake promotes longevity in humans and metazoans. *Cell* 2014 Jun 13;157(6):1365-75.
3. Schrauzer GN, Shrestha KP. Lithium in drinking water and the incidences of crimes, suicides, and arrests related to drug use. *J Am Coll Nutr* 2002 Feb;21(1):14-21.
4. Schrauzer GN. Lithium: occurrence, dietary intakes, nutritional essentiality. *J Am Coll Nutr* 2002 Feb;21(1):14-21.
5. Hashimoto R, Takei N, Shimazu K, Christ L, Lu B, Chuang DM. Lithium induces brain-derived neurotrophic factor and attenuates excitotoxicity. *Neuropharmacology* 2002 Dec;43(7):1173-9.
6. Hashimoto R, Shimizu E, Iyo M. Critical role of brain-derived neurotrophic factor in mood disorders. *Brain Res Brain Res Rev* 2005;50(1):61-73.

6. Hashimoto K, Shimizu E, Iyo M. Critical role of brain-derived neurotrophic factor in mood disorders. *Brain Res Brain Res Rev* 2004;42(1-2):154-62.
7. Moore GJ, Bebchuk JM, Wilds IB, Chen G, Manji HK. Lithium-induced increase in human brain grey matter. *Lancet* 2000;355(9234):1249-50.
8. Benedetti F, Radaelli D, Poletti S, Locatelli C, Falini A, Colombo C, Smeraldi E. Opposite effects of suicidality and lithium on brain volume. *Arch Gen Psychiatry* 2012;69(10):1090-100.
9. Chen G, Rajkowska G, Du F, Seraji-Bozorgzad N, Manji HK. Enhancement of hippocampal neurogenesis by lithium. *J Neurosci* 2000;20(18):4291-9.
10. Berger GE, Wood SJ, Ross M, Hamer CA, Wellard RM, Pell G, Phillips L, Nelson B, Amminger GP, Yung AR, Jackson C, et al. Brain volume changes in individuals at ultra-high risk for psychosis. A longitudinal MRI/MRS study. *Curr Pharm Des* 2012;18(4):570-5.
11. Zhu ZF, Wang QG, Han BJ, William CP. Neuroprotective effect and cognitive outcome of chronic lithium on traumatic brain injury. *Neurosci Lett* 2006;402(1-3):159-62.
12. Marazziti D, Dell'osso B, Catena Dell'Oso M, Consoli G, Del Debbio A, Mungai F, Vivarelli L, Albanese F, Piccinni A, Ruggieri S, et al. Effects of lithium on brain volume in bipolar disorder. *Spectr* 2007 Oct;12(10):751-6.
13. Emanuele E, Politi P, Bianchi M, Minoretti P, Bertona M, Geroldi D. Raised plasma nerve growth factor levels associated with mood disorders. *Neurosci Lett* 2000;286(1-2):101-4.
14. Young W. Review of lithium effects on brain and blood. *Cell Transplant* 2009;18(9):951-75.
15. Schrauzer GN, de Vroey E. Effects of nutritional lithium supplementation on mood. *Biol Trace Elem Res* 1994;40:89-100.

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