



## Your Monthly Update

*Dear Colleague*

Welcome to the March 2014 newsletter from Pure Bio Ltd.

### **Did you know:**

Low vitamin D levels is the cause of clogged arteries and heart disease in people with diabetes. Vitamin D stops the inflammatory process that causes white blood cells to bind to the walls of the blood vessels close to the heart. (*J Biol Chem, 2012; 287: 38482-94*)

Be sure to check our homepage regularly on [www.purebio.co.uk](http://www.purebio.co.uk) as there are currently a number of reformulations occurring.

## Manic Depression (Bipolar Disorder)

Protocol Summary

Ranking	Nutritional Supplements	Botanical Medicine
Primary		
Secondary	Fish oil Tryptophan (5-HTP) Mutivitamin/mineral	
Other	5-HTP Choline Folic acid Inositol NAC SAMe Vitamin B12 Vitamin C	

**Primary** – Reliable and relatively consistent scientific data showing a substantial health benefit.

**Secondary** – Contradictory, insufficient, or preliminary studies suggesting a health benefit or minimal health benefit.

**Other** – An herb is primarily supported by traditional use, or the herb or supplement has little scientific support and/or minimal health benefit.

## The Facts

Bipolar disorder is a mood disorder characterized by alternating states of depression and mania that follow each other in a repeating cycle.

People with bipolar disorder may cycle through these states quickly or may experience long periods of depression or mania. Often one mood state predominates, while the other occurs only infrequently or briefly. The cause of bipolar disorder is unknown.

## Symptoms

Symptoms of the elevated mood stage of bipolar disorder include an exaggerated sense of confidence and well-being, racing thoughts, excessive talking, distractibility, increased desire for pleasurable activity, decreased need for sleep, impulsivity, irritability, and impairment in judgment. The depressed phase includes symptoms of sadness, fatigue, pessimism, feelings of helplessness, low self-esteem, and loss of interest in life, possibly with thoughts of suicide.

## Dietary and Lifestyle Modification

Exercise influences the production and use of neurotransmitters and hormones in the body, and its antidepressant effect is well known. A preliminary study of the effects of vigorous exercise on the body chemistry of patients with bipolar disorder found that exercise increased a specific chemical associated with better mood. However, exercise may adversely influence the effectiveness of some medications used for bipolar disorder. Many people with bipolar disorder take lithium, and because lithium is lost in sweat, exercise that involves significant sweating may change blood levels of lithium. Such a change has been reported in clinical evaluation; therefore, people taking lithium who intend to start a vigorous exercise program should be monitored by their doctor.

## Complimentary Therapies

Yoga, massage therapy, and acupuncture are all techniques that may relieve depression and mood swings associated with bipolar disorder, as well as reduce the anxiety and stress that can trigger bipolar disorder symptoms.

## Nutritional Supplement Treatment Options

**Fish Oil – 1.5 – 2g daily EPA.** People diagnosed with depression may have lower blood levels of omega-3 fatty acids. A double-blind trial found that bipolar patients taking 9.6 grams of omega-3 fatty acids from fish oil per day in addition to their conventional medications had significant improvements compared with those taking placebo. Similar benefits were reported in a preliminary trial that used 1.5 to 2 grams

per day of pure eicosapentaenoic acid, a component of fish oil. In a preliminary trial, children with bipolar disorder saw benefits from omega-3 fatty acids (1,290 to 4,300 mg per day) from fish oil given for eight weeks.

**L-Tryptophan** – **200mg daily of 5-HTP**. L-tryptophan is the amino acid used by the body to produce serotonin, a chemical messenger important for proper brain function. Supplementation with L-tryptophan has led to improvement in depression in many studies, but information is limited about its effect on bipolar disorder. Case reports on two bipolar patients treated with lithium or an antidepressant drug described marked improvements when they were given 12 grams daily of L-tryptophan. L-tryptophan is converted to **5-HTP (5-hydroxytryptophan)** before it becomes serotonin in the body. In a controlled trial, 200 mg daily of supplemental 5-HTP had antidepressant effects in bipolar patients, though it was not as effective as lithium. In a double-blind trial, patients with bipolar disorder had greater improvement with a combination of 5-HTP at 300 mg daily plus an antidepressant drug than with 5-HTP alone.

**Vitamin-Mineral-Amino Acid Formula** - In a preliminary trial, 11 patients with bipolar disorder were treated for six months with a moderate-potency vitamin-mineral formula that also contained a proprietary blend of amino acids and other nutrients. The severity of depression decreased on average by 71% and the severity of mania decreased by 60% during the study. A double-blind study is needed to confirm these promising results.

**Choline** – **1 – 2g BD**. Small amounts of choline are present in many B-complex and multivitamin supplements. Acetylcholine levels in the brain may affect mood disorders, and supplemental choline can increase acetylcholine levels. In a preliminary trial, six people with bipolar disorder were given 1 to 2 grams of choline twice per day (2 to 4 grams per day). Five of the six had a significant reduction in manic symptoms, and four of the six had a reduction in all mood symptoms.

**Inositol** – **under practitioner guidance**. Inositol is a nutrient found in large amounts in the brain, but its possible role in mood disorders is unclear. Inositol levels may be reduced in certain parts of the brains of depressed and bipolar patients. However, lithium reduces normal brain levels of inositol, and this may be one of the ways lithium helps people with bipolar disorder. Although inositol is known to have significant antidepressant properties when administered in large amounts of 12 grams per day, case reports involving bipolar patients have reported either no benefit, some benefit, or worsening of symptoms from inositol supplementation. Until controlled research clarifies the effects of inositol in people with bipolar illness, it should only be used under the supervision of a qualified healthcare practitioner.

**N-Acetyl Cysteine** – **1000mg BD**. In a preliminary trial, depression in patients with bipolar disorder significantly improved after N-acetyl cysteine treatment (1,000 mg twice a day for eight weeks).

**SAMe** – **500 – 1600mg daily**. SAMe (S-adenosylmethionine) is another amino acid that has an impact on serotonin levels, and it has demonstrated significant antidepressant effects in clinical trials. In both controlled and preliminary studies, SAMe has been shown to be helpful for the depressive symptoms of bipolar disorder. However, some patients have switched from depression to mania while

using SAME at 500 to 1,600 mg daily. This is a known side effect of other antidepressant medications. The mania induced by SAME resolved when the supplement was discontinued, and in one case resolved spontaneously while the patient continued taking SAME. Therefore, people with bipolar disorder should supplement with SAME only under the supervision of a qualified healthcare practitioner.

**[Folic acid](#)** – *200mcg daily*; and **[Vitamin B12](#)** - Both folic acid and vitamin B12 are used in the body to manufacture serotonin and other neurotransmitters. It is well known that deficiency of either nutrient is associated with depression. There is some evidence that patients diagnosed with mania are also more likely to have folate deficiencies than healthy controls. Some studies have found that people who take lithium long term, and who also have high blood levels of folic acid, respond better to lithium. A double-blind study of patients receiving lithium therapy showed that the addition of 200 mcg of folic acid per day resulted in clinical improvement, whereas placebo did not.

There have been case reports of both mania and depression associated with vitamin B12 deficiency, and these symptoms cleared after treatment with injections of B12. However, B12 deficiency has not been reported in bipolar disorder patients, and no studies have been published investigating the effects of vitamin B12 supplementation in people with bipolar disorder.

**[Vitamin C](#)** – *3000 – 4000mcg daily*. Vitamin C helps the body to reduce its load of vanadium and this has been studied for its possible role in treatment of bipolar disorder. A double-blind trial found that both manic and depressed bipolar patients were significantly improved after one-time administration of 3 grams of vitamin C, compared with a placebo. The same study found that both manic and depressed patients did better on a reduced-vanadium diet compared to a normal diet. Another double-blind study reported that 4 grams per day of vitamin C in combination with a drug known as EDTA (which also helps remove elements such as vanadium from the body) was helpful to depressed bipolar patients but not to those experiencing mania. Until more is known, people with bipolar illness should avoid supplements containing vanadium and consider supplementing with vitamin C.

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