What is Vitamin B9

Vitamin B9 is more commonly known as folic acid. It is also known as folate, folacin, folinic acid, L-5 methyltetrahydrofolate, L-5-MTHF, pteroyl-glutamic acid (PGA) and pteroylmonoglutamate. Like all B vitamins it is water soluble. Lack of folic acid is the most common vitamin deficiency in the world.

Why is Vitamin B9 important and what does it do in the body?

Folic acid functions together and works well with Vitamin B12, Vitamin B6, Choline and ascorbic acid (Vitamin C) and is critical to cellular division because it is necessary in DNA synthesis. Without it cells do not divide properly. It is a “methyl” donor in the body along with Vitamin B12 and S-adenosylmethionine (SaMe), which donate methyl molecules to facilitate in the manufacture of nucleic acids and neurotransmitters. It is critical during pre-conception and during the first few weeks of pregnancy as it is essential for the development of the brain and nerves and prevents neural tube defects (developmental failure affecting the brain and spinal cord in the embryonic phase of fetal development) and spina bifida in babies. It is also necessary for the growth and reproduction of red blood cells and aids the conversion of homocysteine to methionine with vitamins B12 and B6. Elevated homocysteine has been linked with heart attacks, strokes and peripheral vascular disease. Folic acid supports the production of gastric acid in the stomach. It also helps with the breakdown and utilization of protein.

What amount of Vitamin B9 do you need each day?

Vitamin B9 or folic acid can be found in multivitamins and B complex vitamins, or sold separately under the name folic acid (poorly utilized), folinic acid and L-5-MTHF which is the most bio-available source.

Note. Individuals with genetic defects in the MTHFR (methylene tetrahydrofolate reductase) gene, can only utilize the L-5-MTHF form of folic acid as the body cannot produce the MTHFR enzyme required to breakdown and process folate.

The DRI (Daily Recommended Intake)/RDA (Recommended Daily Allowance) of dietary vitamin B9 are listed on the next page:

Please Note: By definition, the DRI/RDA recommendations apply only to 98% of healthy individuals and are not sufficient for those with higher nutrient requirements based upon their biochemical individuality, genetics, health status, medications, deficiencies, lifestyle, and toxic exposures.
Daily recommended allowance for Vitamin B9.

### Adult
- 19 years and older: 400 mcg (RDA)
- Pregnant women: 600 mcg (RDA)
- Breastfeeding women: 500 mcg (RDA)

### Pediatric
- Infants 0 - 6 months: 65 mcg (adequate intake)
- Infants 7 - 12 months: 80 mcg (adequate intake)
- Children 1 - 3 years: 150 mcg (RDA)
- Children 4 - 8 years: 200 mcg (RDA)
- Children 9 - 13 years: 300 mcg (RDA)
- Teens 14 - 18 years: 400 mcg (RDA)

Amounts used in studies for heart disease range from 400 - 1,200 mcg. However, high levels of folate can hide a vitamin B12 deficiency, and should be taken only under a health care provider’s supervision.

### Recommended Daily Allowance
- **200mcg/Day**
- **Optimal Daily Allowance**
- **800mcg/day**

### Nutrient Deficiency Symptoms and Conditions

**What are possible Vitamin B9 (folic) deficiency conditions and symptoms?**

- Abdominal Cramps
- Acne
- Arteriosclerosis
- Cancer
- Candidiasis (Thrush)
- Cervical Dysplasia
- Constipation
- Cracking of the lips and/or tongue
- Depression
- Diarrhea
- Eczema
- Epilepsy
- Fatigue
- Glossitis
- Gout
- Greying Hair
- Headaches
- Immune deficiency
- Loss of appetite
- Loss of villi in the small intestine
- Megaloblastic anemia
- Memory Loss
- Neuropathy
- Paranoia
- Parkinson’s Disease
- Periodontal disease
- Restless legs syndrome
- Senility
- Stress and Anxiety
- Ulcerative Colitis
What are possible Vitamin B9 excess symptoms?

Folic acid is extremely safe and well tolerated but high doses (e.g. 5 to 10 milligrams) may cause increased flatulence, nausea and loss of appetite. High dosages should also be used with caution in individuals with epilepsy as on occasions it may increase seizure activity.

What steals Vitamin B9 from the body?

The use of the following drugs can cause depletions of folic acid

- Aspirin
- Female hormones – oral contraceptives and estrogens affect the absorption of folic acid and vitamin B6
- Anti-Hyperlipidemia - bile acid sequestrants: Cholestyramine (Questran) and Colestipol (Colestid)
- Anti-seizure drugs: Phenobarbital (Luminal Sodium), Thiopental, Secobarbital (Seconal), Methohexital. Phenytoin (Dilantin), Carbazepine (Tegretol), Primidone (Mysoline)
- Anti-Inflammatory drugs and gout drugs: Colchicine(Colbenemid), Probenecid (Benemid)
- Nonselective NSAIDs: Ibuprofen, Naproxen (Naprosyn), Sulindac (Clinoril), Indomethacin and indocin
- Anti-rheumatic drugs: Sulfasalazine (Azulfidine)
- High temperature, light and food processing
- The use of broad spectrum antibiotics: Bactrim, Septra and Trimpex.

What tests can be used to assess Vitamin B9 (folic acid) levels?

- Elevated Homocysteine in plasma (>15nmol/ml suggests folic acid deficiency)
- Homocysteine in urine (>25ug/mg Creatinine suggests deficiency)
- Folate in serum (<0.3ng/ml suggests deficiency)
- Folacin in Red Blood cells (<160ng/ml suggests folic acid deficiency)
What foods contain the highest amounts of Vitamin B9?

TOP 10 VITAMIN B9 (FOLIC ACID) RICH FOODS ARE

1. Yeast extract
   1,010 mcg/100g
2. Liver
   691 mcg/100g
3. Sunflower seeds
   238 mcg/100g
4. Collard greens
   194 mcg/100g
5. Raw Spinach
   194 mcg/100g
6. Chickpeas
   172 mcg/100g
7. Almonds
   150 mcg/100g
8. Asparagus
   148 mcg/100g
9. Peanuts
   145 mcg/100g
10. Cauliflower
    132 mcg/100g

What are the best Vitamin B9 products?

L-5-MTHF is the best form of folic acid

REFERENCES

All the statements, including product labels, supporting literature and/or product manufacturers websites have not been evaluated by FDA. These products are not intended to diagnose, treat, cure or prevent any disease.
Vitamin B9 (Folic acid)

What are the very best Vitamin B9 products to buy?

**ProThera L Methylfolate**
Highly bioavailable folate as L-5-MTHF, 1 mg. Folate deficiencies are common as many individuals do not consume enough folate-rich foods and dietary folates are readily destroyed by cooking or processing. Although typically …

**PRL Max B-ND**
Dietary Supplement Max B-ND™ is a nutritional industry first - with never before available probiotic-cultured B vitamins. It contains a high-energy, end-chain, B vitamin complex derived from live sources for …

**ProThera Thera-B**
B-complex with activated folate and B12. Thera-B™ provides a full-complement of essential B-complex vitamins and related nutrients in high potency amounts. Inclusion of Metafolin®** L-5- methyltetrahydrofolate (L-5-MTHF, a bioactive …

**ProThera MultiThera 3**
Iron- and copper-free multiple formula. Both iron and copper have been eliminated from this version of MultiThera® to address the needs of patients who may have elevated tissue identical in all other respects to MultiThera® 1 …

**Pure Caps Womens Pure Pack**
Women's Supplement to Support Bone and Heart Health. Now With Metafolin® L-5-MTHF. Sizes Available 30 packets. Each packet contains 6 different supplements, including …

**Pure Caps Mens Pure Pack**
Regardless of your walk of life, all men need to ensure that they get enough of an array of important nutrients. However, who wants to spend their time picking out supplements for a daily …