

## Folic acid

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It has been suggested that this article be **split** into articles titled **Folic acid** and **Vitamin B9**, accessible from a disambiguation page. Please discuss this on the article's talk page. (July 2013)

**Folic acid** (also known as **folate**, **vitamin M**, **vitamin B<sub>9</sub>**,<sup>[3]</sup> **vitamin B<sub>c</sub>**,<sup>[4]</sup> (or **folacin**), **pteroyl-L-glutamic acid**, and **pteroyl-L-glutamate**)<sup>[5]</sup> are forms of the water-soluble vitamin B<sub>9</sub>. Folate is composed of the aromatic pteridine ring linked to para-aminobenzoic acid and one or more glutamate residues. Folic acid is itself not biologically active, but its biological importance is due to tetrahydrofolate and other derivatives after its conversion to dihydrofolic acid in the liver.<sup>[6]</sup>

Vitamin B<sub>9</sub> (folic acid and folate) is essential for numerous bodily functions. Humans cannot synthesize folate de novo; therefore, folate has to be supplied through the diet to meet their daily requirements. The human body needs folate to synthesize DNA, repair DNA, and methylate DNA as well as to act as a cofactor in certain biological reactions.<sup>[7]</sup> It is especially important in aiding rapid cell division and growth, such as in infancy and pregnancy. Children and adults both require folic acid to produce healthy red blood cells and prevent anemia.<sup>[8]</sup>

Folate and folic acid derive their names from the Latin word *folium* (which means "leaf"). Leafy vegetables are principal sources of folic acid, although in Western diets fortified cereals and bread may be a larger dietary source.<sup>[citation needed]</sup>

A lack of dietary folates leads to folate deficiency, which is uncommon in normal Western diets.<sup>[citation needed]</sup> A complete lack of dietary folate takes months before deficiency develops as normal individuals have about 500–20,000 μg<sup>[9]</sup> of folate in body stores.<sup>[10]</sup> This deficiency can result in many health problems, the most notable one being neural tube defects in developing embryos. Common symptoms of folate deficiency include diarrhea, macrocytic anemia with weakness or shortness of breath, nerve damage with weakness and limb numbness (peripheral neuropathy),<sup>[11]</sup> pregnancy complications, mental confusion, forgetfulness or other cognitive declines, mental depression, sore or swollen tongue, peptic or mouth ulcers, headaches, heart palpitations, irritability, and behavioral disorders. Low levels of folate can also lead to homocysteine accumulation,<sup>[7]</sup> DNA synthesis and repair are impaired and this could lead to cancer development.<sup>[7]</sup>

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**Folic acid**






**IUPAC name** [hide]  
(2S)-2-[[4-[[[2-amino-4-hydroxypteridin-6-yl)methyl]amino]phenyl]formamido]pentanedioic acid

**Other names** [hide]  
N-[4-[[[(2-amino-4-oxo-1,4-dihydropteridin-6-yl)methyl]amino]benzoyl]-L-glutamic acid; pteroyl-L-glutamic acid; Vitamin B<sub>9</sub>; Vitamin B<sub>c</sub>; Folacin

**Identifiers**

CAS number 59-30-3 ✓



Miles Dusul

September 18, 2013 ·

Activize Oxyplus (Folic Acid) Health benefits : ~ pregnancy, Sperm Quality, Heart disease, Cancer, Antifolates, Toxicity, and Psychological. Production by FitLine .

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