What Contains Folate Acid

Folate is 400 micrograms from foods or dietary supplements. S. As the human body cannot make folate, it is required in the diet, making it an essential nutrient. The recommended adult daily intake of folate in the U. Folate is required for the body to make DNA and RNA and metabolize amino acids necessary for cell division and maturation of blood cells. As the human body cannot make folate, it is required in the diet Folate, also known as vitamin B9 and folacin, is one of the B vitamins. RNA and metabolize amino acids necessary for cell division and maturation of blood cells. Manufactured folic acid, which is converted into folate by the body, is used as a dietary supplement and in food fortification as it is more stable during processing and storage. It occurs naturally in many foods 082c853fa1

The plant hormone salicylic acid 082c853fa1 Many alkaloids and other aromatic metabolites. 082c853fa1 Folate in the form of folic acid is used to treat anemia caused by folate deficiency. Folic acid is also used as a supplement by women during pregnancy to reduce the risk of neural tube defects (NTDs) in the baby. NTDs include anencephaly and spina bifida, among other defects. Low levels in early pregnancy are believed to be the cause of more than half of babies born with NTDs. More than 80 countries use either mandatory or voluntary fortification of certain foods with folic acid as a measure to decrease the rate of NTDs. Long-term supplementation with relatively... 082c853fa1 == Interactive pathway map == 082c853fa1 Imidazol-4-one-5-propionic acid 082c853fa1 Glutamic acid 082c853fa1

B vitamins commonly recognized by name than by number, such as pantothenic acid (B5), biotin (B7), and folate (B9). They are a chemically diverse class of compounds. B vitamins are present in protein-rich foods, such as B vitamins are a class of water-soluble vitamins that play important roles in cell metabolism and synthesis of red blood cells 082c853fa1

The folate precursor para-aminobenzoate (pABA) 082c853fa1 Click on genes, proteins and metabolites below to link to respective articles. 082c853fa1 2,3-Dihydroxybenzoic acid (DHB) used for enterobactin biosynthesis 082c853fa1 Each B vitamin is either a cofactor (generally a coenzyme) for key metabolic processes or is a precursor needed to make one. 082c853fa1 Dietary supplements containing all eight are referred to as a vitamin B complex. Individual B vitamins are referred to by B-number or by chemical name, such as B1 for thiamine, B2 for riboflavin, and B3 for niacin, while some are more commonly recognized by name than by number, such as pantothenic acid (B5), biotin (B7), and folate (B9). B vitamins are present in protein-rich foods, such as fish, poultry, meat, dairy products, and eggs; they are also found in leafy green vegetables, beans, and peas. Fortified foods, such as breakfast cereals, baked

products, and infant formulas, may contain B vitamins. 082c853fa1 Although the production of homocysteine is a normal part of the metabolism of methionine, an excess of homocysteine can be harmful. There are two primary ways for organisms such as humans to metabolize homocysteine: remethylation and transsulfuration. 082c853fa1

4-Aminobenzoic acid It consists of a benzene ring substituted with amino and carboxyl groups. Many bacteria, including those found in 4-Aminobenzoic acid (also known as para-aminobenzoic acid or PABA because the two functional groups are attached to the benzene ring across from one another in the para position) is an organic compound with the formula H2NC6H4CO2H. PABA is a white crystalline solid, although commercial samples can appear gray. PABA is an intermediate in the synthesis of folate by bacteria, plants, and fungi. The compound occurs extensively in the natural world. include spinach and oat seeds. It is slightly soluble in water 082c853fa1

== Metabolism == 082c853fa1

Folinic acid Better known as 5-formyltetrahydrofolate in biochemistry, it is a natural form of folate, albeit with no clear function. may be associated with decreased folate transport or increased folate turnover within the CSF. It is taken by mouth, injection into a muscle, or injection into a vein. As the use of folic acid cannot normalize cerebrospinal fluid Folinic acid, also known as leucovorin, is a medication used to decrease the toxic effects of methotrexate and pyrimethamine. It is also used in combination with 5-fluorouracil to treat colorectal cancer and pancreatic cancer, and may be used to treat folate deficiency, anemia, and methanol poisoning 082c853fa1

== Properties == 082c853fa1

Dihydrofolic acid Since tetrahydrofolate is needed to make both purines and pyrimidines, which are building blocks of DNA and RNA, dihydrofolate reductase is targeted by various drugs to prevent nucleic acid synthesis. 2 (2) Dihydrofolic acid (conjugate base dihydrofolate) (DHF) is a folic acid (vitamin B9) derivative which is converted to tetrahydrofolic acid by dihydrofolate reductase. ; Matthews, Rowena G. (2007). EcoSal Plus. "Folate Biosynthesis, Reduction, and Polyglutamylation and the Interconversion of Folate Derivatives" 082c853fa1

Remethylation adds a methyl group to the homocysteine molecule, converting homocysteine back into methionine. There are two known remethylation pathways. One pathway requires vitamin B9 (folate) and B12 (cobalamin), which drive the MTR (methionine synthase) and MTRR (methionine synthase reductase) enzymes. The other pathway uses TMG (trimethylglycine) to drive the BHMT (betaine-homocysteine methyltransferase) enzyme. 082c853fa1 == List of B vitamins == 082c853fa1

Formiminoglutamic acid Formiminotransferase cyclodeaminase Glutamate-1-semialdehyde Glutamic acid Imidazol-4-one-5-propionic Formiminoglutamic acid (FIGLU; conjugate base, formiminoglutamate) is an intermediate in the catabolism of L-histidine to L-glutamic acid. It is elevated with folate trapping, where it is accompanied by decreased methylmalonic acid, increased folate and a decrease in homocysteine. The FIGLU test is used to identify vitamin B12 deficiency, folate deficiency, and liver failure or liver disease. It thus is also a biomarker for intracellular levels of folate. methylmalonic acid, increased folate and a decrease in homocysteine 082c853fa1

Vitamer Folic acid and food folates are absorbed and metabolized by different pathways. dietary supplements. After digestion, food folates are converted in the small A vitamer () is any form in which some vitamin occurs. Each vitamer of a particular vitamin is a compound that performs the functions of that vitamin and prevents the symptoms of deficiency of the vitamin 082c853fa1

In industry, PABA is prepared mainly by two routes: 082c853fa1

Tetrahydrofolic acid Tetrahydrofolic acid (THFA), or tetrahydrofolate, is a folic acid derivative. It is an active form of folic acid and functions as a one-carbon carrier. It is an active form of folic acid and functions as a one-carbon carrier Tetrahydrofolic acid (THFA), or tetrahydrofolate, is a folic acid derivative. In biochemistry, it is also notated H4PteGlu, referring to its alternative name tetrahydro-pteroylglutamate 082c853fa1

== Medical uses == 082c853fa1 Transsulfuration converts homocysteine to cystathionine. This pathway requires vitamin B6 to drive the CBS (cystathionine beta synthase) enzyme. Cystathionine is the immediate precursor of the amino acid cysteine, which (along with glutamate and glycine), is incorporated into the... 082c853fa1 The aromatic amino acids phenylalanine, tryptophan, and tyrosine 082c853fa1 Glutamate-1-semialdehyde 082c853fa1

Chorismic acid It is a precursor for:. The folate precursor para-aminobenzoate (pABA) The biosynthesis of vitamin K and folate in plants Chorismic acid, more commonly known as its anionic form chorismate, is an important biochemical intermediate in plants and microorganisms. salicylic acid Many alkaloids and other aromatic metabolites 082c853fa1

Side effects may include trouble sleeping, allergic reactions, or fever. Use in pregnancy or breastfeeding is generally regarded as safe. When used for anemia it is recommended that pernicious anemia as a cause be ruled out first. Folinic acid is a form of folic acid that does not require activation by dihydrofolate reductase to be useful to the body. 082c853fa1 Folinic acid was first made in 1945. In 2025, the United States Food and Drug Administration approved leucovorin calcium tablets for cerebral folate deficiency, bypassing standard review and drawing expert criticism. It is on the World Health Organization's List of Essential Medicines. 082c853fa1 The biosynthesis of vitamin K and folate in plants and microorganisms. 082c853fa1 A set of vitamers with related biological activity are

grouped together by a general name, or generic descriptor, that refers to similar compounds with the same vitamin function. For example, vitamin A is the generic descriptor for the class of vitamin A vitamers which includes retinol, retinal, retinoic acid, and provitamin carotenoids such as beta-carotene, among others. 082c853fa1 == See also == 082c853fa1 Vitamers often have subtly different properties from their primary, or most common form. These differences include abundance in the typical diet, bioavailability, toxicity, physiological activities... 082c853fa1 == Production and occurrence == 082c853fa1 Indole, indole derivatives and tryptophan 082c853fa1 Formiminotransferase cyclodeaminase 082c853fa1 The name chorismic acid derives from a classical Greek word χωρίζω meaning "to separate", because the compound plays a role as a branch-point in aromatic amino acid biosynthesis. 082c853fa1

Homocysteine It is biosynthesized from methionine by the removal of its terminal Cε methyl group. with methyl folate trapping, where it is accompanied by decreased methylmalonic acid, increased folate, and a decrease in formiminoglutamic acid. This is Homocysteine (symbol Hcy) is a non-proteinogenic α-amino acid. It is a homologue of the amino acid cysteine, differing by an additional methylene bridge (−CH2−) 082c853fa1

Early research identified vitamins by their ability to cure vitamin-specific deficiency diseases. For example, vitamin B1 was first identified as a substance that prevented and treated beriberi. Subsequent nutrition research has revealed that all vitamers exhibit biological activity against their specific vitamin deficiency, although different vitamers exhibit different potencies against those diseases. 082c853fa1