Folate compounds – indispensable for mother and baby

Both folic acid and folate are water-soluble vitamins and are also called vitamin B9. They are involved in the synthesis of purine and pyrimidine and thus in RNA and DNA synthesis. In the body, they play a crucial role in cellular differentiation, regeneration and formation, and are therefore indispensable for growth, blood formation and brain development.3, 4

For this reason, an adequate folate supply is not only essential for women before and during pregnancy, but also for infants and young children to aid in their growth and development.2, 3

Folic acid and folate differ in origin and the way they are metabolised. This is taken into account in the calculation of the D-A-CH reference values for the recommended daily intake as well as in the EU regulation for infant formulae and follow-on formulae (EU Regulation 2016/127) and further specified under the term “folate equivalent”4.

Folic acid – the synthetic form

Folic acid does not occur naturally. It is a synthetic compound that has no vitamin function in this form. Folic acid must be converted by the body in several steps into its bioactive form 5-methyltetrahydrofolate (5-MTHF) before its effect can unfold (see figure). Several enzymes are involved in the conversion, including dihydrofolate reductase (DHFR) and methyltetrahydrofolate reductase (MTHFR).

Some people cannot convert sufficient amounts of the synthetic form of this B vitamin into its metabolically active form. The reason for this is a restricted or limited activity of individual enzymes. If this
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5-MTHF reduces the metabolic activity of the enzyme MTHFR and remains unused in the blood. Unlike folic acid, it does not need to be converted or activated and exerts its effects immediately. The main storage organ for this compound is the liver. Breast milk also contains the metabolically active folate form 5-MTHF.

Studies have shown that the administration of 5-MTHF does not lead to an accumulation of unmetabolised folate acid in the serum and the possible presence of enzyme polymorphism is also of no relevance. This means that the bioactive folic acid form 5-MTHF has been shown to be superior in use to synthetic folic acid. Further, current research shows that a low folate level in pregnant women is associated with an increased risk of several birth defects, i.e. neural tube defects, spina bifida, anencephaly and encephalocele. It can also cause congenital anomalies of the heart, lips or palate as well as miscarriages, premature births and low birth weight.

Clinical studies demonstrate the efficacy of periconceptional folate supplementation in reducing the risk of neural tube defects. Based on strong data, professional societies recommend a folate-rich diet and the supplementary intake of 400 µg folate per day via food supplements at the latest four weeks before conception and until the end of the first trimester.

Metafolin® is a safe way to adequately provide infants with folate. Metafolin® is a safe way to adequately provide infants with folate.

COMBIOTIC® with Metafolin® – one step closer to nature’s example

Up to now, synthetic folic acid has been prescribed by law as the standard for formulae. To get a little closer to nature’s example, HiPP has added another piece of the puzzle to its tried-and-tested COMBIOTIC® formulae: Metafolin® – a natural and directly available folate source. This calcium salt of 5-MTHF has received a positive evaluation from the European Food Safety Authority (EFSA) for use in formulae and has recently also been included in the respective legal regulations.

A controlled study has been carried out to determine the safety of Metafolin® fortified formula. The results show that children who received this bioactive folate form showed adequate growth and development. The folate levels in these infants (intervention group) were comparable to that of the control group. The formula with Metafolin® was well accepted and also very well tolerated. Stool characteristics in those two groups, i.e. consistency, colour and smell, were also comparable. This means that every baby can benefit from a formula that already contains the bioactive folate form as it guarantees an adequate supply of this vitamin.
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For more information on Metafolin®, scan:

HIPPOrganic®Combiotic® is the only formula with Metafolin®.

*Metafolin® is a registered trademark of Merck KGaA, Darmstadt, Germany.

Important notice: Breastfeeding is best for babies. Infant formula should only be given upon the advice of paediatricians or other independent experts.

Author: Dr. Rita Hermann, Agency for Nutrition Communication, Germany

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