

## The science of breastmilk

Breastmilk is a complex substance, containing the perfect mixture of carbohydrates, fats, protein, vitamins and minerals needed for healthy development. It provides the best type of nutrition for your baby while its unique properties help to protect them against illness and infection and support their natural defences.

Through research into the content of breastmilk, we have been able to learn about the functional benefits of nutrients such as LCPs, nucleotides and prebiotics oligosaccharides. These all have an important role to play in your baby's first few months of life, and perhaps even into adulthood, contributing to your baby's general wellbeing as well as healthy development.

### LCPs

LCPs stands for Long Chain Polyunsaturated fatty acids. Research has established that two LCPs in particular - AA and DHA - are found in breastmilk and are important for the development of a baby's brain, eyes and nervous system. Consuming more LCPs during pregnancy and whilst breastfeeding has been proven to have a beneficial effect on your baby's development, encouraging better visual and brain development and movement skills.

In terms of the foods you eat, the main sources of LCPs are fish, eggs and meat. Oily fish like mackerel, sardines, tuna and salmon are a good source of both AA and DHA, while red meat is rich in AA. LCPs can also be made in the body from essential fatty acids found in leafy greens, nuts, vegetable oil and seeds, but the process is not always very efficient, and may not supply enough LCPs to meet the needs of young babies.

### Nucleotides

Nucleotides are the building blocks for all cells in the body, including the immune system. The immune system is very complex and effective at protecting the body against infection and research has shown that nucleotides support the activity of certain cells within the immune system.

### Prebiotic oligosaccharides (prebiotics)

Prebiotic oligosaccharides are special nutrients which also help to protect your baby by supporting them from the inside. This is achieved by increasing the levels of friendly bacteria and decreasing the levels of potentially pathogenic (harmful) bacteria within the gut. Aptamil have been researching prebiotic oligosaccharides for many years and are continuing to explore what other potential benefits they may offer.

### How prebiotics can help

Friendly bacteria exist naturally in the gut and can fight off the potentially harmful germs. Prebiotics are food for this friendly bacteria, encouraging them to grow and therefore supporting your baby from the inside.

During pregnancy, your baby's gut is sterile and they are only protected from illness and infection thanks to basic defences like the skin and the supply of your own antibodies which travel across the

placenta. This is known as 'passive' immunity. During a natural delivery, your baby's journey through the birth canal exposes them to your bacteria which colonises the gut to help kick-start your baby's immune system and encourage the development of an 'active' state.

If you have a caesarean section the first bacteria your baby has contact with come from the hospital surroundings rather than the birth canal and differences have been found to exist in the gut flora of babies born by caesarean section.

Whether your baby is born naturally or by caesarean, feeding your baby's natural friendly bacteria with a daily intake of prebiotics is good for their digestion and can help their immune system.

If you have any questions about the benefits of breastfeeding, our Careline team of experts will do their best to answer them. Call us on **08457 623 628**, Monday to Friday, 8am - 8pm, or use our confidential instant, online messaging service, Live Chat, Monday to Friday, 9am - 5pm.