New evidence on benefits of breast feeding

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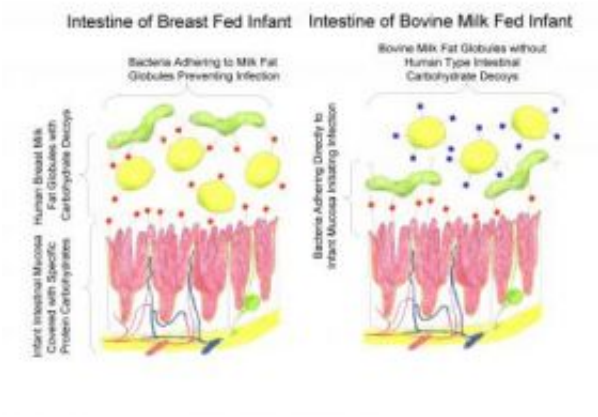

Scientists have identified sugar-based proteins in human breast-milk that could help fight disease. Credit: Credit: Niclas Karlsson

Researchers in Switzerland and Australia are reporting identification of proteins in human breast-milk — not present in cow's milk — that may fight disease by helping remove bacteria, viruses and other dangerous pathogen's from an infant's gastrointestinal tract. Their study is scheduled for the September 5 issue of ACS' *Journal of Proteome Research*.

Niclas Karlsson and colleagues point out that researchers have known for years that breast milk appears to provide a variety of health benefits, including lower rates of diarrhea, rashes, allergies, and other medical problems in comparison to babies fed with cow's milk. However, the biological reasons behind this association remain unclear.

To find out, the scientists collected human and cow's milk samples and analyzed their content of milk fat. They found that fat particles in human milk are coated with particular variants of two sugar-based proteins, called MUC-1 and MUC-4.

Previous studies by others have shown that these proteins can block certain receptors in the GI tract that are the main attachment sites for E. coli, Helicobacter pylori and other disease-causing microbes, thereby preventing infection. By contrast, since cow's milk lacks these protein variants, it may not offer the same disease protection, the researchers say.

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