Protein in Breast Milk May Protect Babies From HIV

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Scientists have identified a protein in breast milk that may be a key reason why most HIV-positive mothers do not transmit the virus to their babies through breast-feeding—a finding that may lead to new HIV prevention methods, The Economist reports.

Publishing their findings in the Proceedings of the National Academy of Sciences, researchers screened smaller and smaller divisions of milk samples from uninfected women and tested them for HIV-fighting properties. Eventually, they isolated a protein known as tenascin C, or TNC, which is already known to play a component in wound healing and which they found can also neutralize HIV.

TNC captures the virus and binds to its envelope, hindering its ability to enter human cells. Because it is a naturally occurring substance in breast milk, TNC is likely safe and would probably sidestep the pitfalls of antiretroviral drug resistance.

“It’s likely that TNC is acting in concert with other anti-HIV factors in breast milk, and further research should explore this,” senior author Sallie Permar, MD, PhD, assistant professor of pediatrics, immunology and molecular genetics and microbiology at Duke University, said in a release. “But given TNC’s broad-spectrum HIV-1-binding and neutralizing activity, it could be developed as an HIV-prevention therapy, given orally to infants prior to breast-feeding, similar to the way oral rehydration salts are routinely administered to infants in developing regions.”

To read the study abstract, click here.

To read a release on the study, click here.

To read the Economist story, click here.

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