

BIOLOGY

From a meeting in Miami Beach of the American Society for Microbiology

The benefits of mother's milk

Here's a medical mystery centering upon why babies don't get sick. A majority of infants harbor infections of the bacterium *Clostridium difficile*. This microbe makes a toxin that in adults can cause diarrhea or a serious inflammation of the colon. Yet infants seemingly suffer no ill effects, even though tests show that their intestines are exposed to amounts of the toxin that would cause disease in adults.

The explanation may lie in part in the breast milk a mother feeds her child, says Steven D. Dallas of the Texas Tech University Health Sciences Center in Lubbock. Dallas' colleague Rial D. Rolfe had previously found that mother's milk prevents the microbial toxin from binding to intestinal cells. The pair believe they have now identified the protective factor.

Human milk contains large amounts of a protein called secretory component, notes Dallas. In milk, the protein exists by itself or linked to the antibody immunoglobulin A. Both the free form of secretory component and its antibody-bound version can inhibit the binding of the toxin to intestinal cells, apparently by latching onto the toxin itself, says Dallas.

— J.T.