News
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*****New approach to vaccine for bacterial meningitis.

DALLAS -- Dallas researchers have made a discovery that indicates a possibility of using bacterial proteins to immunize against the bacterial pathogen that is "the most important cause of meningitis in infants and children."

This is a step toward development of a vaccine for Haemophilus influenzae type b (Hib), says Dr. Eric Hansen, assistant professor of Microbiology at The University of Texas Health Science Center at Dallas. Hansen presented his work at the Twenty-third Interscience Conference on Antimicrobial Agents and Chemotherapy in Las Vegas Oct. 26.

This bacterium causes from 10,000 to 15,000 cases of meningitis each year, and this type of meningitis is usually fatal unless treated with antibiotics. Even with antibiotic treatment, five to 10 percent of children with Haemophilus meningitis die, and in those who recover there is sometimes significant neurological damage. Most cases occur in children from three months to five years of age.

In testing six monoclonal antibodies against 126 strains of Haemophilus influenzae type b from across the country, Hansen's group found that two antibodies recognized all strains tested. The antibodies were specifically directed against a major outer membrane protein of the organism.

"It was the monoclonal antibody technique that made this study possible," said Hansen.

Researchers fused tumor cells with spleen cells from mice that had been immunized by injections of the Haemophilus outer membrane. The spleen cell carries on the function of antibody production. The tumor cell provides the genetic information necessary to permit sustained reproduction of the resulting hybridoma (fused cell).

They then identified the hybridomas that were making antibodies to the outer membrane proteins. These hybridomas were cultured to produce monoclonal antibodies.

"Our results indicate that it may be possible to use outer membrane proteins to immunize infants and children against Haemophilus disease," said Hansen.

In previously published studies, he and Dr. George McCracken, professor of Pediatrics at the Dallas health science center, have shown that children recovering from Hib meningitis produce antibodies to the Hib outer membrane protein.

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