



Science

Proteins may protect against infections

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BUFFALO, N.Y., Feb. 6 (UPI) -- U.S. scientists said certain proteins appear to have the potential to enhance the production of antibodies against a multitude of infectious agents.

University of Buffalo Professor Terry Connell developed the LT-IIa and LT-IIb enterotoxins and their respective mutant proteins as mucosal adjuvants, or "boosters," that can enhance the potency of existing and future vaccines.

"Almost every bacterium and virus that attacks us doesn't bore through the skin," said Connell. "These infectious agents enter by colonizing the mucosal surfaces on the eye, sinuses, mouth, gut lining, lungs and genital tract."

The scientists used a mouse model to determine the nasal passage is the best mucosal surface on which to apply LT-IIa and LT-IIb. Mixing a very small amount of LT-IIa or LT-IIb with an existing antigen and dripping the mixture into a mouse's nose subsequently produced a strong antigen-specific immune response in the nasal passages, as well as in saliva, the urogenital tract and the bloodstream, their research showed.

In contrast, immunization with only the antigen generates a much lower level antigen-specific immune response.

Connell and colleagues published five papers last year describing their advances and might begin human trials in about a year.

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