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Molecular basis for varied presentations of ETEC explored

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(HealthDay)—The EtpA adhesion molecule, which is secreted by

enterotoxigenic *Escherichia coli* (ETEC) strain H10407, is a dominant ETEC blood group A-specific lectin/hemagglutinin, according to a study published online May 17 in the *Journal of Clinical Investigation*.

Pardeep Kumar, Ph.D., from the Washington University School of Medicine in St. Louis, and colleagues examined the molecular basis of the varied clinical presentations of ETEC infections.

The researchers found that blood group A human volunteers developed severe diarrhea more often than individuals from other blood groups when challenged with ETEC strain H10407, originally isolated from a case of cholera-like illness. The EtpA adhesin molecule, which was secreted by a diverse population of ETEC strains, including H10407, was found to be a dominant ETEC blood group A-specific lectin/hemagglutinin and was shown to interact specifically with glycans expressed on intestinal epithelial cells from blood group A individuals. Bacterial-host interactions mediated by EtpA accelerated bacterial adhesion and effective delivery of head-labile and heat-stable ETEC toxins.

"Collectively, these data provide additional insight into the complex molecular basis of severe ETEC diarrheal illness that may inform rational design of vaccines to protect those at highest risk," the authors write.

One author is listed as inventor on a U.S. patent involving the EtpA adhesin.

More information: Abstract/Full Text (subscription or payment may be required)

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