Engineered anti-toxin antibodies improve efficacy

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The effectiveness of toxin-neutralizing antibodies is considered to be mediated through the interaction of the variable region of the antibody and the toxin; however, recent studies suggest that the constant region (Fc) of antibodies also influence efficacy.

In this issue of the *Journal of Clinical Investigation*, Jeffrey Ravetch and colleagues at The Rockefeller University demonstrate that engineering the Fc domain of anti-toxin antibodies increases toxin neutralization activity through enhancing the interaction between toxin-targeting antibodies and the Fc receptor on immune cells. The authors found that mice expressing humanized FcR were better protected from anthrax toxin when given engineered anti-anthrax toxin antibodies.

This study suggests that engineering the Fc domains of antibodies can be used as a strategy to enhance antibody efficacy.

More information: Human IgG Fc domain engineering enhances antitoxin neutralizing antibody activity, *J Clin Invest*. DOI: 10.1172/JCI72676

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