Two Are Better Than One! Predicting the Varied and Counter-Intuitive Actions of Antibody Mixtures

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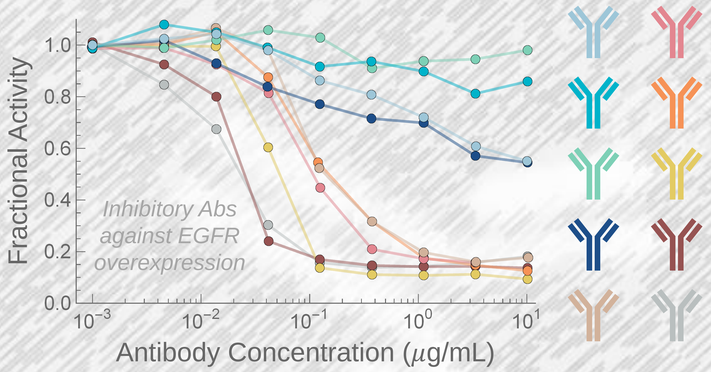
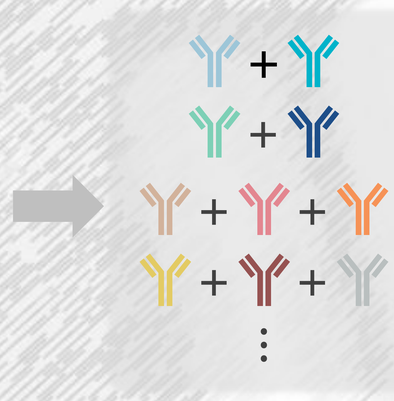
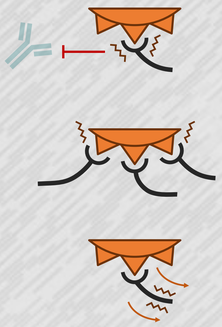
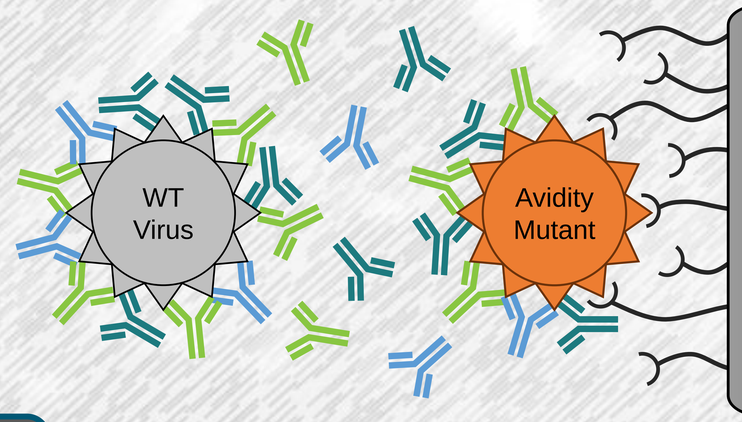
The Power to Predict





The Curious Case of Avidity

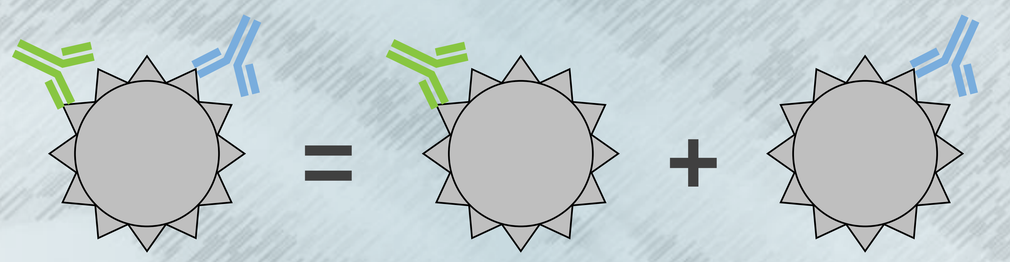




Can we predict the potency of an Ab mixture based on its components?

How can viruses evolve in the face of polyclonal antibody protection?

Characterizing n Abs (with n experiments) enables us to predict the potency of all 2^n Ab combinations

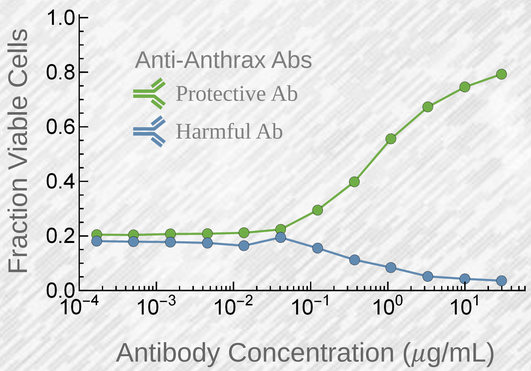


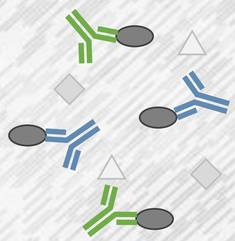
Even independent antibody action can collectively give rise to complex and unintuitive behavior

Can we understand and harness clustering to enhance Ab mixtures?

How prevalent and predictable is synergy in concerted Ab action?

Good + Bad = Very Strange





Bacillus anthracis

Which Ab dominates?

Non-monotonic response?

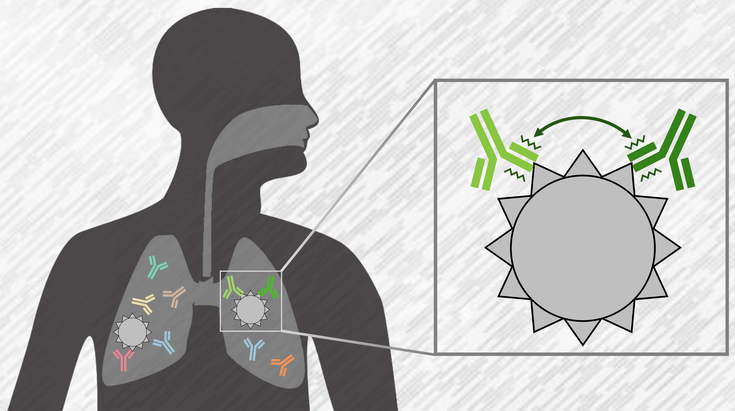
Does avidity play a role?

Mediated by allostery?

Features of response?

Equivalence to serum?

Mechanisms of Synergy



[1] Koefoed 2011 *mAbs*. [2] Yewdell 1986 *J Virol*. [3] Hensley 2009 *Science*. [4] Chow 2013 *Cell Host Microbe*

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