

Study sees need for standardized evaluation of antibody response to HIV-1

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U.S. Military HIV Research Program (USMHRP) researcher Victoria R. Polonis, Ph.D., and colleagues released findings on a study of cross-clade neutralization patterns among HIV-1 strains from six major clades in the 5 Jun 2008 issue of *Virology*.

Broadly neutralizing antibodies are likely to play a key role in any successful global vaccine for HIV. This study looked specifically at the role of clade in eliciting protective responses. Working with USMHRP colleague Francine McCuthan, Ph.D., researchers had access to a wide range of pure clade reagents, which they used to analyze the cross-clade neutralization patterns.

Another key goal of this study was to assess the impact of assay choice on the evaluation of cross-clade neutralization. The team examined the performance of different types of antibodies in both traditional primary cell neutralization assays and the newer, more standardized TZM-bl reporter cell line assays.

A major finding of the study was that the results of the two assay formats showed no direct correlation. This underscores the need to identify a physiologically relevant and standardized platform for reproducible measurement of neutralizing antibodies. Until such a product is available, researchers recommend that parallel evaluation with both platforms should be contemplated until a better understanding of immune correlates of protection is achieved.

Polonis and colleagues also found that the clade C antibody pool (from subjects infected with clade C from Tanzania) was broadly cross-reactive, neutralizing the greatest number of viruses in both assays. "The data is encouraging," noted Polonis. "Clade C vaccine products certainly warrant further investigation in light of several recent publications regarding potentially novel properties of the C envelope and because more than half of the global HIV-1 infections are clade C." In fact, Polonis and her team have an ongoing project to develop a clade C envelope subunit vaccine derived from acute infection.

Source: Henry M. Jackson Foundation for the Advancement of Military Medicine

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