

## Ebola Rabbit Monoclonal Antibodies: Validation and Performance

### Antibodies Overview

Exonbio has developed antibodies which is the core IVD ingredient for rapid test of Ebola virus. These antibodies can detect a wide spectrum of virus species which are known to cause disease in humans: Sudan, Mayinga, Bundibugyo and Tai Forest.

### Epitope Binning Insight: Unraveling Binding Specificity

Epitope binning is vital for selecting the right antibody pairs in immunoassays. The data below highlights how selecting antibody pairs from distinct epitope bins enhances assay accuracy, sensitivity, and reliability. Antibodies from different bins are less likely to compete or interfere with each other's binding, resulting in minimized background noise and improved precision. This optimized combination of antibodies ensures harmonious interactions, ultimately elevating the overall quality of the immunoassay results.

		Detection Antibody							
		1B5	1H1	1F7	1F3	3B2	1E5	1F2	3E8
Capture Antibody	1B5								
	1H1								
	1F7								
	1F3								
	3B2								
	1E5								
	1F2								
	3E8								

**Figure A:** Analysis of epitope characterization for antibodies targeting the VP40 protein. The antibodies are categorized into groups based on whether they bind or do not bind. Additionally, the catalog number of each antibody is presented.

## Potency in Action: EC50 Data

The EC50 data, signifying the concentration at which an antibody attains 50% maximum binding, holds significant importance within immunoassays. This measure provides a direct glimpse into the antibody's strength, sensitivity, and binding affinity—key factors for optimizing assays. With our antibody displaying a lower EC50 value, denoting elevated sensitivity and affinity, it exhibited robust binding efficacy even at a minimal concentration. This data aids in refining assay conditions, ensuring precise detection even in scenarios involving low-concentration analytes. By steering the choice of optimal antibody concentration and enhancing sensitivity, the EC50 data bolsters the accuracy and efficiency of our immunoassay, reinforcing its trustworthiness in practical applications.

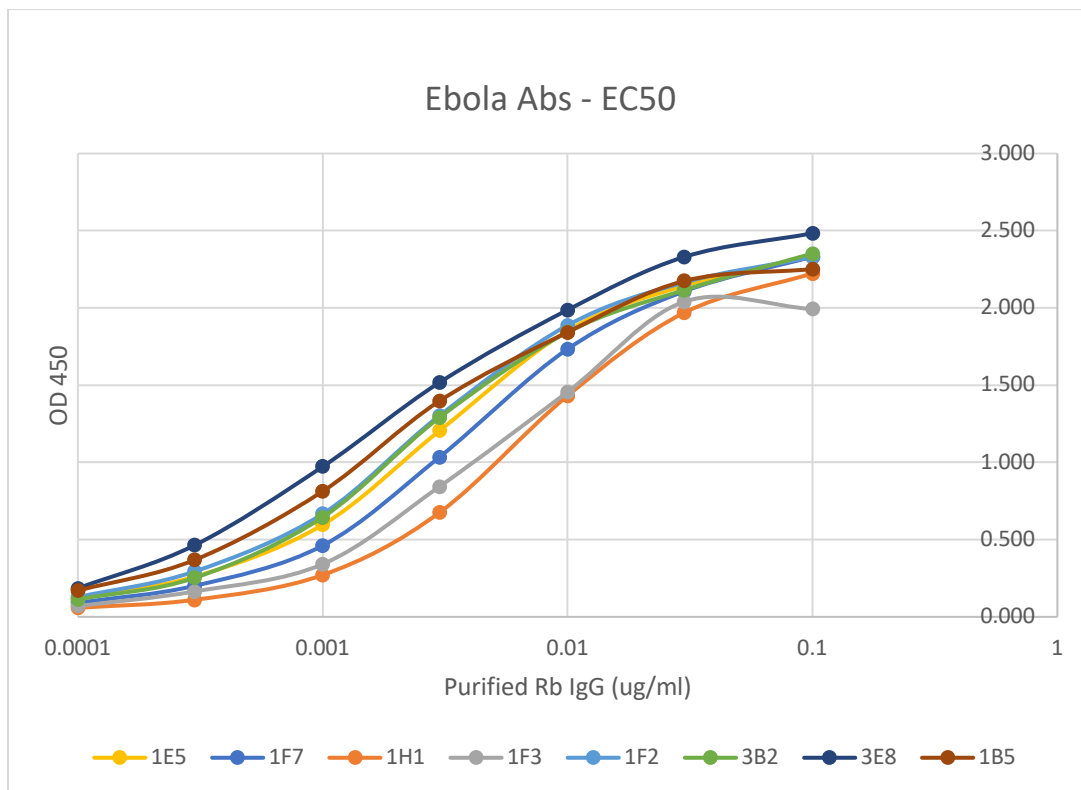


Figure A: EC50 assay of anti-NP FluA rabbit monoclonal antibodies. Full-length recombinant nucleocapsid protein was coated at 2 ug/ml. HRP conjugated goat anti-rabbit IgG antibody used for detection at 1:10,000. Data was modeled and analyzed with GraphPad-Prism.

## Rigorous Quality Control ISO 17025:2017

We make sure our IVD grade antibodies meet the highest standards, and our ISO-controlled production process plays a key role. At every step, from making the antibodies to purifying them, we rigorously test to ensure they are consistent, reliable, and perform well. Following ISO standards means we have set procedures in place that help us maintain consistent quality, making sure every batch is just as good as the last. Our commitment to this process shows how dedicated we are to providing you with antibodies you can trust for your immunoassay need.

## Ebola Virus

The highly virulent nature of Ebola virus, evident from the 2014 West African pandemic, highlights the need to develop vaccines or therapeutic agents that limit the pathogenesis and spread of this virus. While vaccines represent an obvious approach, targeting virus interactions with host proteins that critically regulate the virus lifecycle also represent important therapeutic strategies. Among Ebola virus proteins at this critical interface is its matrix protein, VP40, which is abundantly expressed during infection and plays a number of critical roles in the viral lifecycle. In addition to regulating viral transcription, VP40 coordinates virion assembly and budding from infected cells. Details of the molecular mechanisms underpinning these essential functions are currently being elucidated, with a particular emphasis on its interactions with host proteins that control virion assembly and egress.

