

Quality raw materials to support tropical disease research?

We I.V.DO that™

Medix Biochemica

Supporting Research into Tropical Vector-Borne Diseases

The need for diagnostic tests

Tropical diseases thrive in hot, humid conditions and are endemic in many of the less affluent geographies surrounding the equator. Most of the pathogens responsible for tropical diseases are transmitted by blood-sucking vectors such as mosquitoes, ticks, and fleas, making disease prevention and control challenging. With vector-borne tropical diseases estimated to account for more

than 700,000 deaths annually¹, rapid point-of-care (POC) diagnostic tests are essential to improve patient outcomes, especially in low resource areas where laboratory facilities are limited. To function effectively, POC tests should have high specificity for the pathogen in question and be able to detect low titers to ensure accurate diagnosis during the early stages of infection.

High-quality antibodies and antigens for tropical disease research

Medix Biochemica has developed an extensive range of antibodies for detecting mosquito- and tick-borne pathogens, including many of the causative agents of tropical diseases. We also offer both native and recombinant antigens, which can form key components of POC tests such as lateral flow immunoassay (LFIA). Our growing product portfolio currently includes antibodies and/or antigens for the following mosquito- and tick-borne pathogens:

- Chikungunya Virus
- Dengue Virus
- Ebola Virus
- Japanese Encephalitis Virus
- Hantaan Virus
- Mayaro Virus
- Plasmodium falciparum
- Powassan Virus
- Saint Louis Encephalitis Virus

- Severe Fever with Thrombocytopenia Syndrome Virus
- Tick-borne Encephalitis Virus
- Trypanosoma cruzi
- Usutu Virus
- West Nile Virus
- Yellow Fever Virus
- Zika Virus

Molecular Diagnostics

Nucleic acid measurement techniques such as quantitative polymerase chain reaction (qPCR) and next-generation sequencing (NGS) are widely used for diagnosing infection due to their exceptional sensitivity. This makes them especially valuable for detecting the presence of a pathogen during disease onset.

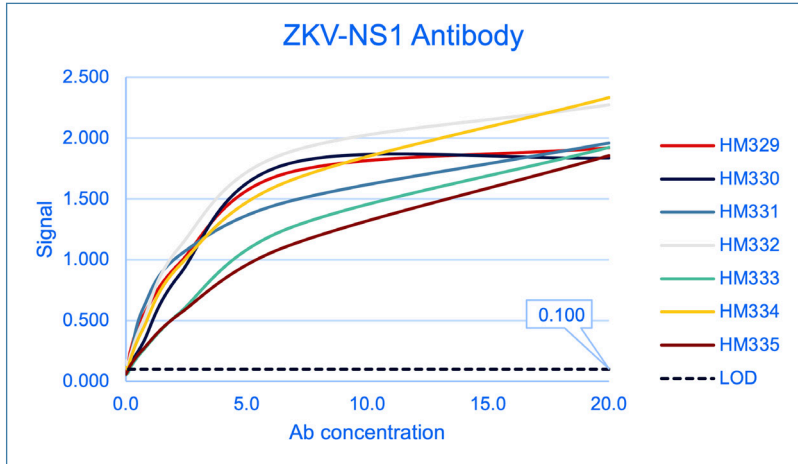
Our molecular diagnostics division, MedixMDx, offers a comprehensive suite of reagents and services for applications including qPCR and NGS, backed by the support of our highly experienced team. Recently, the MedixMDx product offering was expanded with a range of novel engineered DNA polymerases, giving researchers even greater flexibility in assay design.

1) <https://www.who.int/news-room/fact-sheets/detail/vector-borne-diseases>

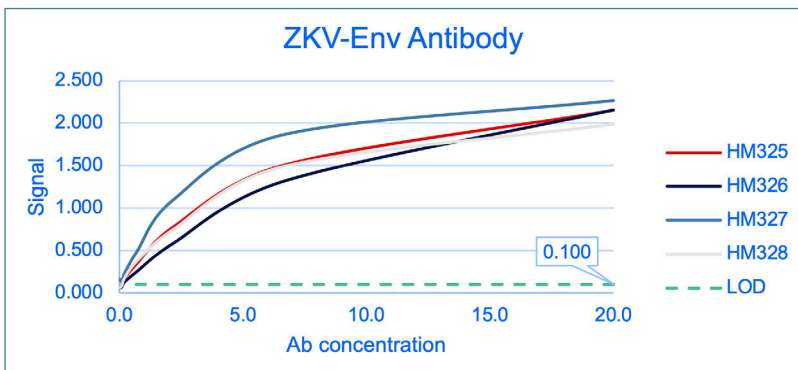
Raw materials for IVD assay development

A major hurdle when developing an IVD test for diagnosing a tropical disease lies in the safe handling of sample material. Often, true positive samples may be too dangerous to collect and distribute, meaning researchers require a safer alternative. To address this issue, Medix Biochemica suggests spiking normal whole blood or plasma with our tropical disease antigens or antibodies, depending on how your IVD test will be configured. Because we guarantee batch-to-batch consistency and scalable supply, you can count on us to help bring your product to market sooner.

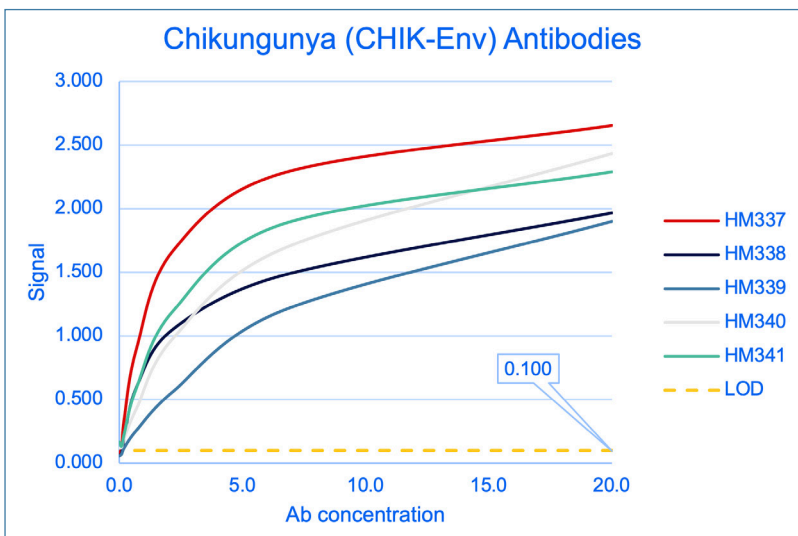
The following graphs demonstrate the binding of Zika Virus and Chikungunya Virus antibodies with their associated recombinant antigen in ELISA. Antigens were coated on plates at 1 µg/ml.



Zika Virus (ZIKV-NS1) Antibody Sensitivity *Antigen LA274



Zika Virus (ZIKV-Env) Antibody Sensitivity *Antigen LA273



Chikungunya (CHIK-Env) Antibody Sensitivity *Antigen LA275

NB. Additional studies (not pictured) confirmed that the antibodies do not bind to other tested recombinant antigens and demonstrate the specificity of the antibodies.

To discuss how we can help deliver on your goals, contact us today: mdx@medixbiochemica.com