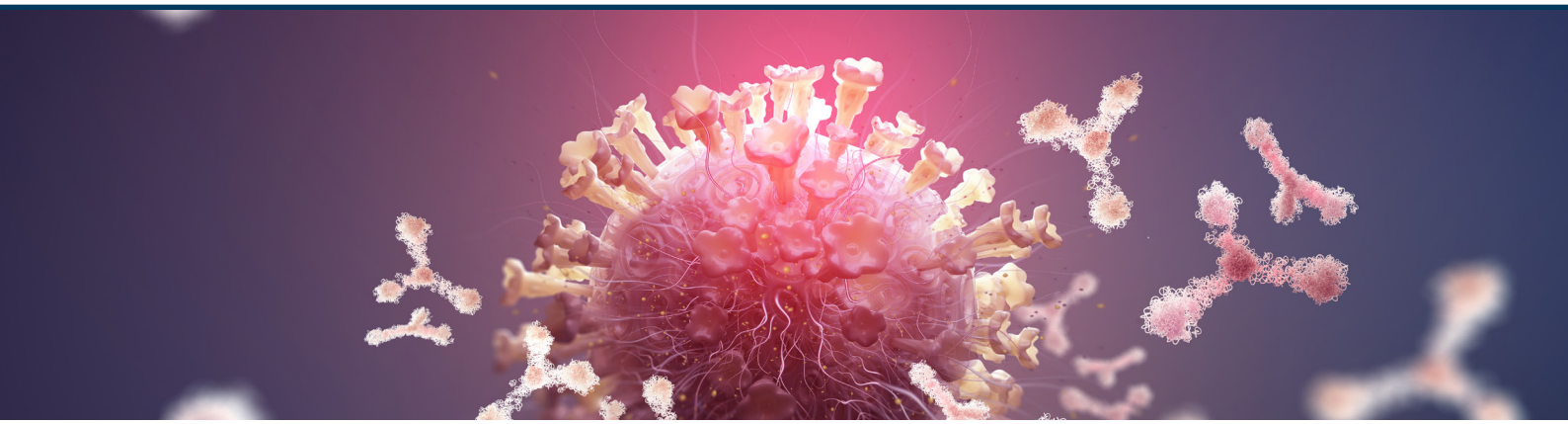
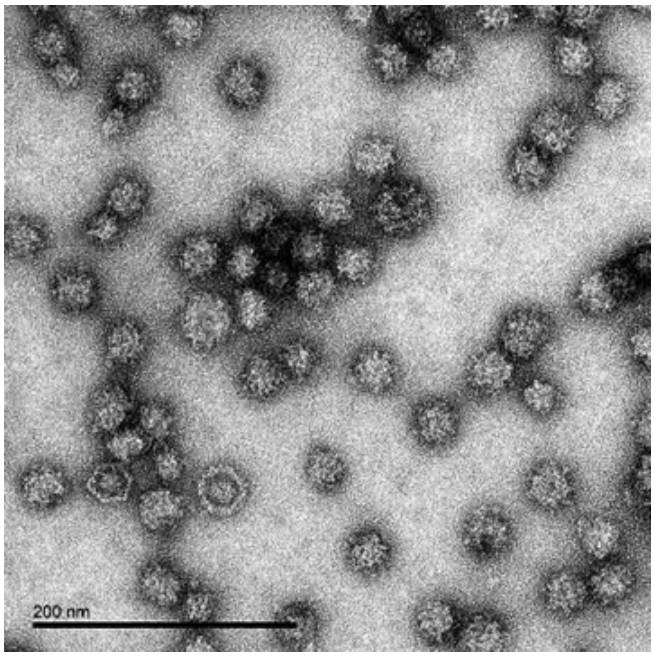
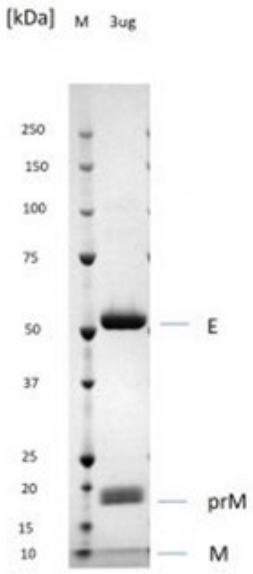
CLINICAL DIAGNOSTICS

Virus-Like Particles



At the Native Antigen Company, we are constantly developing new antigens and antibodies for emerging infectious diseases, allowing for novel vaccine & therapeutic research, and better diagnostics in pursuit of a safer world. We are known for our wide range of Virus-Like Particles (VLPs) consisting of structural proteins specific to the virus in question, presented as structurally accurate recombinant virions. VLPs are known to be highly immunogenic, and are non-infectious due to lack of the core genetic material of the virus. Compared to single recombinant antigens, VLPs more effectively activate T-cell responses, usually generating higher titres of antibodies, allowing to capture and generate antibodies to epitopes spanning more than one protein's subunit.





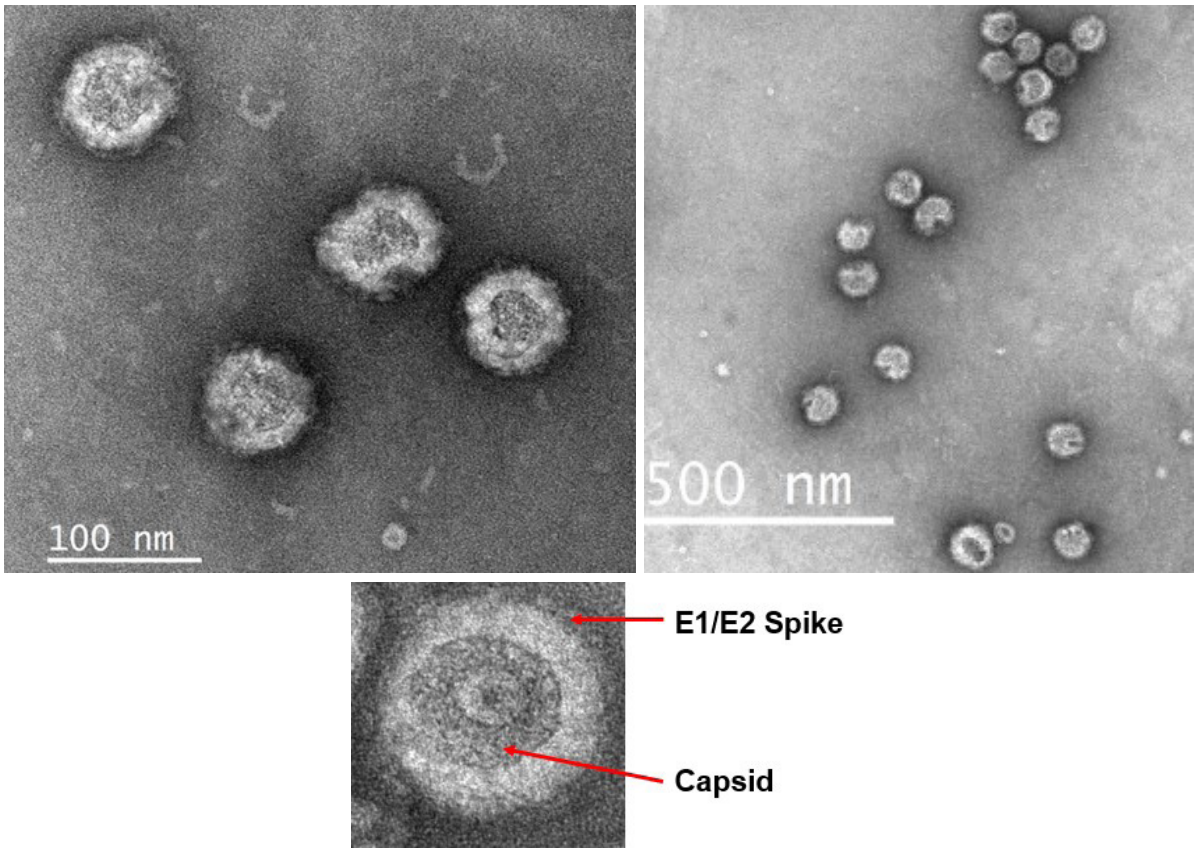
EM picture (a) and SDS-PAGE (b): *Non-reducing SDS-PAGE gel showing purified Dengue virus serotype 2 virus-like particles; envelope protein at approx. 55kDa, prM protein running at approx. 18kDa and M protein at approx. 10kDa.*

For the next-level detection of your diagnostic assays, consider our bestselling Dengue virus-like particles (VLPs). They have been developed to maintain the surface antigenicity of native viruses but are safe to handle due to the lack of a viral genome. See one of many publications with our Dengue VLPs:

"VLPs were confirmed to be heterogeneous in size morphology and maturation state. Yet, we show that many highly conformational and quaternary structure-dependent antibody epitopes found on virus particles are efficiently displayed on DENV1–4 VLP surfaces as well. Additionally, DENV VLPs can efficiently be used as antigens to deplete DENV patient sera from serotype specific antibody populations" (Metz et al., 2018).

Discover our full range of Virus-Like Particles

Rubella Virus Gen. 2	Norovirus GII.10 VP1
Dengue, Serotypes 1-4	Norovirus GII.17 VP1
Japanese Encephalitis	Norovirus GII.2 VP1
Zika (partially mature)	Norovirus GII.3 VP1
Zika, immature	Norovirus GII.4 VP1
Chikungunya	Norovirus GII.6 VP1
Mayaro	Norovirus GIX.1 VP1
Norovirus GI.1 VP1	Parvovirus VP2(B19)
Norovirus GI.3 VP1	



EM picture: Rubella (strain F-Therien) VLPs consisting of spike glycoprotein E1, spike glycoprotein E2 and capsid protein.

Our Rubella VLPs not only provide higher safety of handling and great lot-to-lot consistency, but show strong IgG correlation using the Seracare AccuSet™ control set, making our product an ideal alternative to culture-produced Rubella lysate.

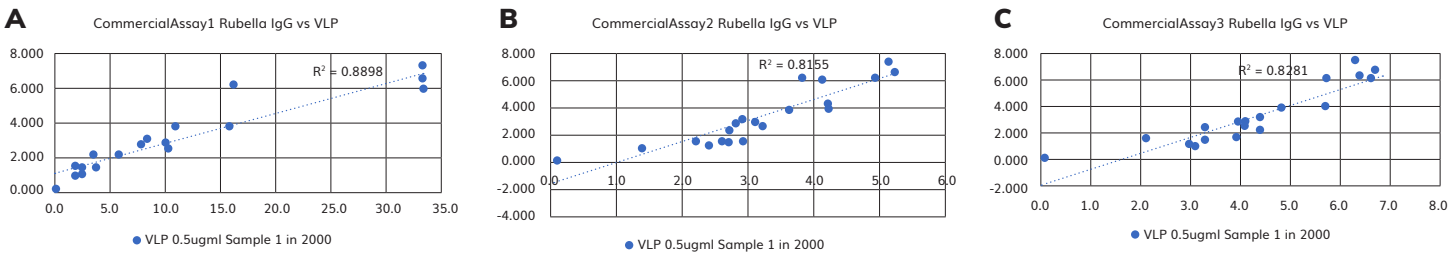


Figure 1. Graphs a to c presents The Native Antigen Company Rubella VLP product correlation with the Seracare "Accuset" rubella control set when tested with three popular commercially available assays.

Matched pairs

Our experienced Assay Development Team prepared over 300 matched antibody pairs perfect for ELISA and Lateral Flow assays. Contact us for more details!

Email: nac.contact@lgcgroup.com

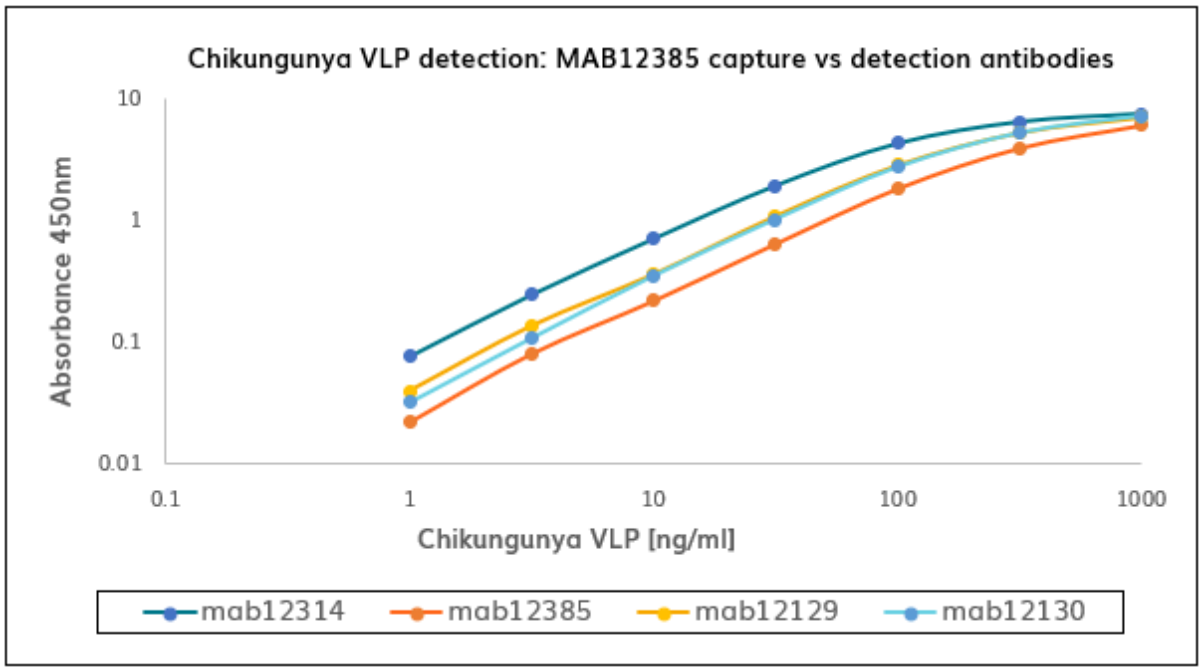


Figure 2. Example of the matched pair data produced by our assay experts.

VLPs tailored to in vitro diagnostics

Responding to a growing need for stable VLPs for development of next generation diagnostics, we are pleased to announce our advanced new Zika Virus- Like Particles, ideal for sensitive assays!

Blocking furin cleavage of the prM protein of Zika VLPs leads to a more homogenous population of particles that show greater stability and purity than our best-selling Zika VLPs which showed a mix of cleaved and uncleaved prM protein.

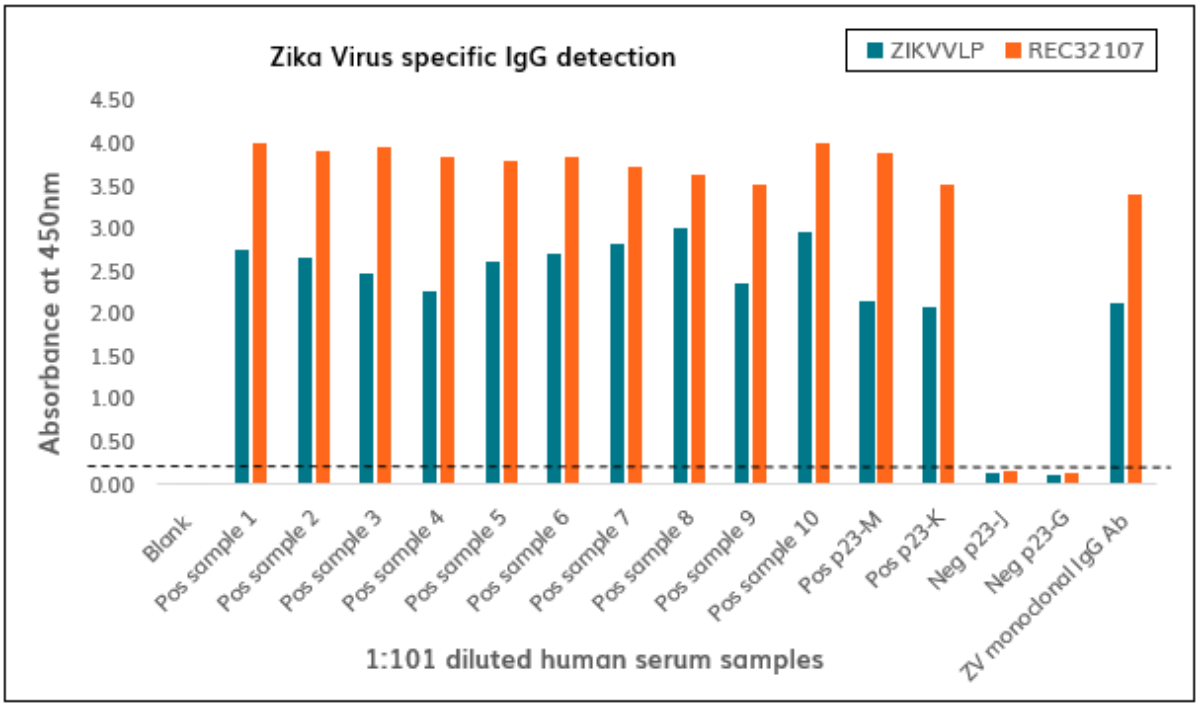


Figure 3. Antigen down ELISA on human serum samples showed that our newly developed immature Zika VLPs (REC32107) guarantee even greater sensitivity of IgG detection than the mature Zika VLPs (ZIKV-VLP), featured in multiple scientific papers.

Custom solutions

If you have a unique need in the space of viral antigens or antibodies, we can offer our experience to collaborate in a bespoke development project. Our specialized team can produce native and recombinant antigens, antibodies, and viral lysates,and downstream processing. We operate to BSL-2 standards and offer multiple validated options for inactivating viruses, as well as multiple conjugation options.

Email: nac.contact@lgcgroup.com
Telephone: +44 (0)1865 595230

References

Metz, S.W. et al. (2018) 'Dengue virus-like particles mimic the antigenic properties of the Infectious Dengue Virus Envelope', Virology Journal, 15(1). doi:10.1186/s12985-018-0970-2.