Four-year antibody persistence after a single-dose live-attenuated chikungunya virus vaccine (VLA1553, IXCHIQ®) in adults aged 18 years and above

Natascha Sattler, Susanne Scheiblauer

Background

VLA1553 is a live-attenuated chikungunya virus vaccine approved for active immunization, in the EU, Brazil, Canada and the UK, as a prophylactic measure for individuals travelling to or living in areas where the chikungunya virus is circulating. Due to the unpredictable epidemic occurrence of chikungunya, a 50% micro-plaque reduction neutralization test titer (µPRNT50) of ≥150, was previously accepted by regulators as an immunological surrogate endpoint that is reasonably likely to predict clinical benefit.

Materials and Methods

At this point in time, this phase 3b open-label, single-arm long-term focuses on antibody persistence in a subset (N=363) of VLA1553 vaccinees from a pivotal phase 3 trial (Schneider et al, 2023) where 4,115 adult participants received VLA1553 or placebo. This presentation outlines immunogenicity data collected until Year 4.

Results

At Year 4, 254 participants remained in follow-up with slightly more females than males. The population is predominantly White with no Hispanic or Latino background. The seroresponse rate was 94.5% (240/254, 95% CI 90.9% to 97.0%). The Day 29 GMT for the long-term follow-up cohort was 3,542, and remained high with 1,056 at Year 1, 785 at Year 2, 737 at Year 3 and 589 at Year 4, considerably exceeding the seroresponse threshold of 150. In adults aged ≥65 years, antibody persistence was similar to younger adults throughout the follow-up.

Conclusion

Single dose vaccination with our live-attenuated chikungunya virus vaccine VLA1553 resulted in persistent neutralizing antibody titers well above the defined seroresponse threshold for at least 4 years.