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Chikungunya Vaccine Development Landscape

WHO EPI-WIN Webinar Update on Chikungunya virus disease outbreak

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Chikungunya vaccine development landscape

Chikungunya	Preclinical	Phase I	Phase IIa Safety / Immunogenicity	Phase IIb / III Efficacy / outbreak	Registration / introduction
Viral vector	AuroVaccines VSV; UTMB Eilat virus; Sementis Vaccinia; GSK ChAdI55; Bavarian Nordic - MVA; CAMS rVTT-CEI-JE-EGFP; Vaxart oral Ad	Uni. Oxford ChAdOxl	**MSD- Hilleman MV CHIK**		
RNA	Karolinska RREP; Karolinska iRNA (Infectious); Griffith Univ iRNA NoLS	Moderna mRNA-1388			
DNA	Medigen iDNA; Karolinska - 'DREP-env'; Karolinska - iDNA (Infectious DNA)				
Protein-based	Hawaii Biotech rE2; Georgia State U. - PapMV r E2EP3; Sgp. Imm. Netw.- E2EP3 peptide; Texas Tech U. VLP - multivalent; GSK VLP				**Bavarian Nordic CHIK VLP Vimkunya**
Inactivated and Live attenuated	U. North Carolina - TMI7-2; Takeda IRES; Leidos SAVE; U. Calif. - fidelity-variant LAVs; Chin. Ac. of Sc LAV delta capsid; Sgp Imm. Netw. - nsP-mutant; Indian Imm. – Formalin I81/25; Najit Techn. HydroVax-CHIKV			**Bharat Biotech BBV87**	**Valneva VLA 1553 IXCHIQ**

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Courtesy of Tung Thanh Le, CEPI portfolio team

Licensed Chikungunya vaccines

Product name	IXCHIQ (VLA 1553)	Vimkunya (CHIK VLP)
Developer	Valneva (Austria)	Bavarian Nordic (Denmark)
Vaccine type	Live attenuated virus	Recombinant virus-like-particle
Indicated age groups	18 years and older	12 years and older
Dose Schedule	Single dose	Single dose
Dosage and Administration	0.5 mL dose, intramuscular, reconstituted with sterile water diluent for injection	Single 0.8 mL dose, intramuscular, Ready-to-use injectable suspension
Dosage Forms and Strengths	Solution for injection, reconstituted to 0.5 mL	Injectable suspension, 0.8 mL per dose
Viral strain	CHIKV La Reunion strain	CHIKV Senegal strain
Licensure status	• US FDA • EMA (EU) • MHRA (UK) • Health Canada • ANVISA (Brazil)	• US FDA • EMA (EU) • MHRA (UK)
Storage and handling	Storage at 2°C to 8°C	Storage at 2°C to 8°C
Access	DS tech transfer to Instituto Butantan (Brazil) Planned tech transfer to Serum Institute (India)	Planned tech transfer to Biological E (India)
Status	• Ongoing plans for Phase 4 • Used in Reunion outbreak (2025) • Current French recommendation for 18-64 yrs	• Ongoing plans for Phase 4 • Discussions with authorities for use in affected countries

Summary

- Two licensed CHIKV vaccines: Valneva's IXCHIQ (live attenuated virus) and Bavarian Nordic's Vimkunya (virus-like-particle)

- Some vaccines in phase 2 clinical development: BBV87 (inactivated virus), MV-CHIK (measles-vectored)

- Other candidates in phase 1 development include ChAdOx, mRNA chikungunya vaccine candidates

- A number of vaccines in preclinical development using a variety of platforms: mRNA, cDNA, LAV, inactivated, adenovirus, other viral vectors and VLPs