

Summary of status of development and availability of variant¹ influenza A(H1) candidate vaccine viruses and potency testing reagents

Antigenic and genetic analyses are performed by the WHO Collaborating Centres of the Global Influenza Surveillance and Response System (GISRS). Unless otherwise indicated all candidate vaccine viruses posted on this table have passed two-way haemagglutination inhibition (HI) test. [National or Regional control authorities approve the composition and formulation of vaccines used in each country](#)

3 October 2023

Candidate vaccine viruses*

Antigenic prototype	Candidate vaccine virus	Type of virus or reassortant	Developing institute	Available from
A/Ohio/24/2017 (H1N2)v	Wild type virus			CDC, USA
	IDCDC-RG59*	Reverse genetics	CDC, USA	CDC, USA
A/Ohio/9/2015 (H1N1)v	Wild type virus			WHO CCs
	IDCDC-RG48A*	Reverse genetics	CDC, USA	CDC, USA
A/Hunan/42443/2015 (H1N1)v	Wild type virus			WHO CCs
	CNIC-1601*	Conventional reassortant	CCDC, China	CCDC, China
A/Michigan/383/2018 (H1N2)v	Wild type virus			WHO CCs
	IDCDC-RG58A*	Reverse genetics	CDC, USA	CDC, USA

*These viruses are candidate vaccine viruses which have passed relevant safety testing. They can be handled under BSL-2 enhanced containment².

¹ Joint FAO, OIE, WHO announcement of the standardization of influenza virus variants infecting humans:

https://cdn.who.int/media/docs/default-source/influenza/global-influenza-surveillance-and-response-system/nomenclature/standardization_of_terminology_influenza_virus_variants_update.pdf?sfvrsn=d201f1d5_6

² [Guidelines for the safe development and production of vaccines to human pandemic influenza viruses and influenza viruses with pandemic potential, Annex 3, TRS No 1016 \(who.int\)](#)

Candidate vaccine viruses in preparation

Antigenic prototype	Type of virus or reassortant	Developing Institute	Status
A/California/71/2021 (H1N2)v	Reverse genetics	CDC, USA	Pending
A/Bretagne/24241/2021 (H1N2)v	Reverse genetics	SJCRH, USA	Pending
A/Bretagne/24241/2021 (H1N2)v	Conventional reassortant	MHRA, UK	Pending
A/Wisconsin/03/2021 (H1N1)v	Reverse genetics	CDC, USA	Pending
A/Ohio/35/2017 (H1N2)v	Reverse genetics	MHRA, UK	Pending
A/Iowa/32/2016 (H1N2)v	Reverse genetics	CDC, USA	Pending
A/Netherlands/3315/2016 (H1N1)v	Reverse genetics	MHRA, UK	Pending
A/Hessen/47/2020 (H1N1)v	Conventional reassortant	MHRA, UK	Pending
A/Netherlands/10370-1b/2020 (H1N1)v	Reverse genetics	MHRA, UK	Pending

Institutes contact details for candidate vaccine viruses orders/information:

CCDC: whocc-china@cnic.org.cn
CDC: nmb7@cdc.gov (Subject : CVV request)
MHRA: standards@nibsc.org or enquires@nibsc.org
SJCRH: Richard.webby@stjude.org
WHO CCs: <https://www.who.int/initiatives/global-influenza-surveillance-and-response-system/who-collaboration-center-erl?CxitPEOtTWx0xUd5TJdODSXcnyJqzYd7FZeivpn7xcl=>

For other candidate vaccine viruses and potency testing reagents, please go to <https://www.who.int/teams/global-influenza-programme/vaccines/who-recommendations/zoonotic-influenza-viruses-and-candidate-vaccine-viruses>

For general enquiries, please contact gisrs-whohq@who.int