

Summary of status of development and availability of A(H5N1) 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](#)

26 September 2025 (Last updated 09 October 2025)

Candidate vaccine viruses*

Antigenic prototype	Clade	Candidate vaccine virus	Developing institute	Available from
A/Vietnam/1194/2004	1	Wild type virus		WHO CCs
		NIBRG-14*	MHRA, UK	MHRA, UK
A/Vietnam/1203/2004	1	Wild type virus		WHO CCs
		SJRG-161052*	CDC, USA SJCRH, USA HKU, China	SJCRH, USA CDC, USA
A/Cambodia/R0405050/2007	1.1	Wild type virus		WHO CCs
		NIBRG-88*	MHRA, UK	MHRA, UK
A/Cambodia/X0810301/2013	1.1.1	Wild type virus		WHO CCs
		IDCDC-RG34B*	CDC, USA	CDC, USA
A/duck/Hunan/795/2002	2.1	Wild type virus		WHO CCs
		SJRG-166614*	SJCRH, USA HKU, China	SJCRH, USA
A/Indonesia/5/2005	2.1.3.2	Wild type virus		WHO CCs
		IDCDC-RG2*	CDC, USA	CDC, USA
A/Indonesia/NIHRD11771/2011	2.1.3.2a	Wild type virus		WHO CCs
		NIIDRG-9*	NIID, Japan NIHRD, Indonesia	NIID, Japan
A/chicken/India/NIV33487/2006	2.2	Wild type virus		WHO CCs
		IBCDC-RG7*	CDC, USA NIV, India	CDC, USA NIV, India
A/bar headed goose/Qinghai/1A/2005	2.2	Wild type virus		WHO CCs
		SJRG-163222*	SJCRH, USA HKU, China	SJCRH, USA
A/whooper swan/Mongolia/244/2005	2.2	Wild type virus		WHO CCs
		SJRG-163243*	SJCRH, USA	SJCRH, USA

Antigenic prototype	Clade	Candidate vaccine virus	Developing institute	Available from
A/Egypt/N03072/2010	2.2.1	Wild type virus		WHO CCs
		IDCDC-RG29*	CDC, USA	CDC, USA
A/Egypt/2321-NAMRU3/2007	2.2.1	Wild type virus		WHO CCs
		IDCDC-RG11*	CDC, USA	CDC, USA
A/turkey/Turkey/1/2005	2.2.1	Wild type virus		WHO CCs
		NIBRG-23*	MHRA, UK	MHRA, UK
A/Egypt/3300-NAMRU3/2008	2.2.1.1	Wild type virus		WHO CCs
		IDCDC-RG13*	CDC, USA	CDC, USA
A/Egypt/N04915/2014	2.2.1.2	Wild type virus		WHO CCs
		NIBRG-306*	MHRA, UK	MHRA, UK
A/common magpie/Hong Kong /5052/2007	2.3.2.1	Wild type virus		WHO CCs
		SJRG-166615*	SJCRH, USA HKU, China	SJCRH, USA
A/duck/Bangladesh/17D1012/2018	2.3.2.1a	IDCDC-RG63A*	CDC, USA	CDC, USA
A/duck/Bangladesh/19097/2013	2.3.2.1a	Wild type virus		WHO CCs
		SJ007*	SJCRH, USA	SJCRH, USA
A/Hubei/1/2010	2.3.2.1a	Wild type virus		WHO CCs
		IDCDC-RG30*	CCDC, China CDC, USA	CCDC, China CDC, USA
A/barn swallow/Hong Kong/D10-1161/2010	2.3.2.1b	Wild type virus		WHO CCs
		SJ-003*	SJCRH, USA HKU, China	SJCRH, USA
A/duck/Vietnam/NCVD-1584/2012	2.3.2.1e	Wild type virus		WHO CCs
		NIBRG-301*	MHRA, UK	MHRA, UK
A/chicken/Guiyang/1153/2016	2.3.2.1d	Wild type virus		WHO CCs
		SJ0009	SJCRH, USA HKU, China	SJCRH, USA HKU, China
A/duck/Laos/3295/2006	2.3.4	Wild type virus		WHO CCs
		CBER-RG1*	CBER/FDA, USA	CBER/FDA, USA
A/Anhui/1/2005	2.3.4	Wild type virus		WHO CCs
		IDCDC-RG6*	CDC, USA	CDC, USA
A/Japanese white eye/HK/1038/2006	2.3.4	Wild type virus		WHO CCs
		SJRG-164281*	SJCRH, USA HKU, China	SJCRH, USA
A/chicken/Hong Kong/AP156/2008	2.3.4	Wild type virus		WHO CCs
		SJ-002*	SJCRH, USA HKU, China	SJCRH, USA

Antigenic prototype	Clade	Candidate vaccine virus	Developing institute	Available from
A/chicken/Bangladesh/11rs1984-30/2011	2.3.4.2	Wild type virus		WHO CCs
		IDCDC-RG36*	CDC, USA	CDC, USA
A/Guizhou/1/2013	2.3.4.2	Wild type virus		WHO CCs
		IDCDC-RG35*	CCDC, China CDC, USA	CCDC, China CDC, USA
A/Jiangsu/NJ210/2023	2.3.4.4b	Wild type virus		CCDC, China
		CNIC-JSNJ210	CCDC, China	
A/Ezo red fox/Hokkaido/1/2022	2.3.4.4b	Wild type virus		NIID, Japan
		NIID-002*	NIID, Japan	
A/American wigeon/South Carolina/22-000345-001/2021	2.3.4.4b	Wild type virus		CDC, USA
		IDCDC-RG78A*	CDC, USA	
A/goose/Guiyang/337/2006	4	Wild type virus		WHO CCs
		SJRG-165396*	SJCRH, USA HKU, China	SJCRH, USA
A/chicken/Vietnam/NCVD-016/2008	7.1	Wild type virus		WHO CCs
		IDCDC-RG12*	CDC, USA	CDC, USA
A/chicken/Vietnam/NCVD-03/2008	7.1	Wild type virus		WHO CCs
		IDCDC-RG25A*	CDC, USA	CDC, USA

*These viruses are candidate vaccine viruses which have passed relevant safety testing and two-way haemagglutination inhibition (HI) tests. They can be handled under BSL-2 enhanced containment¹.

‡Formerly classified as A(H5) clade 2.3.2.1c.

Candidate vaccine viruses in preparation

Antigenic prototype	Clade	Developing Institute	Available from
A/Victoria/149/2024	2.3.2.1a	NIID, Japan	Pending
A/Cambodia/SVH240441/2024-like	2.3.2.1e‡	CDC, USA	Pending
A/chicken/Ghana/20/2015-like (IDCDC-RG75A)	2.3.2.1f		Pending
A/chicken/Ghana/AVL-76321VIR7050-39/2021-like (IDCDC-RG80A)	2.3.4.4b		Pending§

§These viruses are candidate vaccine viruses which have passed relevant safety testing and two-way haemagglutination inhibition (HI) tests. They can be handled under BSL-2 enhanced containment².

‡Formerly classified as A(H5) clade 2.3.2.1c.

Institutes contact details for candidate vaccine virus orders and other information:

CCDC: fluchina@ivdc.chinacdc.cn

CDC: cvvrequest@cdc.gov (Subject: CVV request)

¹ [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 \(who.int\)](#)

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 \(who.int\)](#)

MHRA: standards@mhra.gov.uk or enquiries@mhra.gov.uk
NIID: flu-vaccine@nih.go.jp
NIV: niv.influenza@gmail.com
HKU: malik@hkucc.hku.hk
SJCRH: richard.webby@stjude.org

For candidate vaccine viruses available from **CBER**, email CBERShippingRequests@fda.hhs.gov

WHO CCs: <https://www.who.int/initiatives/global-influenza-surveillance-and-response-system/who-collaboration-center-erl?CxitPEOtTWx0xUd5TJdODSXcnyJqzYd7FZeivpn7xcl=>

Reference antigens (freeze dried)

Starting materials		Ref Ag	Unitage	Available from
Parent virus	CVV	Lot number	(µgHA/ml)	
A/Jiangsu/NJ210/2023	CNIC-JSNJ210	25/156* [§]	46	MHRA, UK
A/American wigeon/South Carolina/AH0195145/2021	SeqHSSVR02	H5-Ag-2311 (cell) [§]	96	CBER/FDA, USA
A/American wigeon/South Carolina/22-000345-001/2021	IDCDC-RG78A	H5-Ag-2406 [§]	76	
		24/234	56	MHRA, UK
A/duck/Bangladesh/19097/2013	SJ001	H5-Ag-1409 (cell)	88	CBER/FDA, USA
A/duck/Vietnam/NCVD-1584/2012	NIBRG-301	17/142	47	MHRA, UK
A/Egypt/N03072/2010	IDCDC-RG-29	H5-Ag-1201	67	CBER/FDA, USA
		2016/110B	84	TGA, Australia
A/Cambodia/R0405050/2007	NIBRG-88	08/216	93	MHRA, UK
A/Bar-headed goose/Qinghai/1A/2005	163222 (SJCRH)	63	69	CBER/FDA, USA
A/Anhui/1/2005	IDCDC-RG6	07/290	99	MHRA, UK
		H5-Ag-0911	58	CBER/FDA, USA
A/turkey/Turkey/1/2005	NIBRG-23	07/112	80	MHRA, UK
		H5-Ag-1510 (cell)	93	CBER/FDA, USA
A/Indonesia/5/2005	IDCDC-RG2	83	32	CBER/FDA, USA
A/Vietnam/1203/2004	161052 (SJCRH)	89	53	CBER/FDA, USA

[§]Calibrated using Anti-A/Astrakhan/3212/2020 HA antisera

* New reagent shown in blue

Sheep antisera

Parent virus	Order Lot number	Available from
A/Astrakhan/3212/2020	H5-Ab-2313	CBER/FDA, USA
	23/224*	MHRA, UK
	H5-Ab-2407*	CBER/FDA, USA
A/Egypt/N04915/2014	17/132	MHRA, UK
A/duck/Bangladesh/19097/2013	H5-Ab-1513	CBER/FDA, USA
A/duck/Vietnam/NCVD-1584/2012-like	14/318	MHRA, UK
A/Egypt/N03072/2010	H5-Ab-1203	CBER/FDA, USA
	AS414	TGA, Australia
A/Cambodia/R0405050/2007-like	08/210	MHRA, UK
A/Anhui/1/2005-like	07/338	MHRA, UK
	08/142	
	H5-AB-1209	CBER/FDA, USA
A/Indonesia/5/2005-like	H5-Ab-1217	CBER/FDA, USA
	AS406	TGA, Australia
A/Bar-headed goose/Qinghai/1A/2005-like	S-112SPL2	CBER/FDA, USA
A/turkey/Turkey/1/2005-like	23/210	MHRA, UK
	08/126 [§]	
	AS421	TGA, Australia
A/Vietnam/1203/2004-like	H5-Ab-1811; H5-Ab-1812	CBER/FDA, USA
A/Vietnam/1194/2004-like	07/148	MHRA, UK
	09/192	
A/Hong Kong/489/97-like	98/666	MHRA, UK
A/chick/Scotland/59	00/542	

[§] Anti NA serum for tests of neuraminidase identification

* Purified rHA used as immunogen

WHO Essential Regulatory Laboratories (ERLs) contact details for reagent orders and other information:

MHRA: standards@mhra.gov.uk or enquiries@mhra.gov.uk

TGA: influenza.reagents@tga.gov.au

For reagents available from **CBER**, email CBERShippingRequests@fda.hhs.gov

For information of other type and subtype 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