

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](#)

28 September 2017

Candidate vaccine viruses

Antigenic prototype	Clade	Candidate vaccine virus	Developing institute	Available from
A/Vietnam/1194/2004	1	NIBRG-14	NIBSC, UK	NIBSC, UK
A/Vietnam/1203/2004	1	SJRG-161052	CDC, USA SJCRH, USA HKU, China	SJCRH, USA CDC, USA
A/Cambodia/R0405050/2007	1.1	NIBRG-88	NIBSC, UK	NIBSC, UK
A/Cambodia/X0810301/2013	1.1.1	IDCDC-RG34B	CDC, USA	CDC, USA
A/duck/Hunan/795/2002	2.1	SJRG-166614	SJCRH, USA HKU, China	SJCRH, USA
A/Indonesia/5/2005	2.1.3.2	IDCDC-RG2	CDC, USA	CDC, USA
A/Indonesia/NIHRD11771/2011	2.1.3.2a	NIIDRG-9	NIID, Japan NIHRD, Indonesia	NIID, Japan
A/chicken/India/NIV33487/2006	2.2	IBCDC-RG7	NIV, India CDC, USA	NIV, India CDC, USA
A/bar headed goose/Qinghai/1A/2005	2.2	SJRG-163222	SJCRH, USA HKU, China	SJCRH, USA
A/whooper swan/Mongolia/244/2005	2.2	SJRG-163243	SJCRH, USA	SJCRH, USA
A/turkey/Turkey/1/2005	2.2.1	NIBRG-23	NIBSC, UK	NIBSC, UK
A/Egypt/2321-NAMRU3/2007	2.2.1	IDCDC-RG11	CDC, USA	CDC, USA
A/Egypt/N03072/2010	2.2.1	IDCDC-RG29	CDC, USA	CDC, USA
A/Egypt/3300-NAMRU3/2008	2.2.1.1	IDCDC-RG13	CDC, USA	CDC, USA
A/Egypt/N04915/2014	2.2.1.2	NIBRG-306	NIBSC, UK	NIBSC, UK
A/common magpie/Hong Kong /5052/2007	2.3.2.1	SJRG-166615	SJCRH, USA HKU, China	SJCRH, USA
A/Hubei/1/2010	2.3.2.1a	IDCDC-RG30	CCDC, China CDC, USA	CCDC, China CDC, USA

Antigenic prototype	Clade	Candidate vaccine virus	Developing institute	Available from
A/duck/Bangladesh/19097/2013	2.3.2.1a	SJ001	SJCRH, USA	SJCRH, USA
A/barn swallow/Hong Kong/D10-1161/2010	2.3.2.1b	SJ-003	SJCRH, USA HKU, China	SJCRH, USA
A/duck/Viet Nam/NCVD-1584/2012	2.3.2.1c	NIBRG-301	NIBSC, UK	NIBSC, UK
A/duck/Laos/3295/2006	2.3.4	CBER-RG1	CBER/FDA, USA	CBER/FDA, USA
A/Anhui/1/2005	2.3.4	IDCDC-RG6	CDC, USA	CDC, USA
A/Japanese white eye/HK/1038/2006	2.3.4	SJRG-164281	SJCRH, USA HKU, China	SJCRH, USA
A/chicken/Hong Kong/AP156/2008	2.3.4	SJ-002	SJCRH, USA HKU, China	SJCRH, USA
A/chicken/Bangladesh/11rs1984-30/2011	2.3.4.2	IDCDC-RG36	CDC, USA	CDC, USA
A/Guizhou/1/2013	2.3.4.2	IDCDC-RG35	CCDC, China CDC, USA	CCDC, China CDC, USA
A/goose/Guiyang/337/2006	4	SJRG-165396	SJCRH, USA HKU, China	SJCRH, USA
A/chicken/Vietnam/NCVD-016/2008	7.1	IDCDC-RG12	CDC, USA	CDC, USA
A/chicken/Vietnam/NCVD-03/2008	7.1	IDCDC-RG25A	CDC, USA	CDC, USA

Candidate vaccine viruses in preparation

Antigenic prototype	Clade	Developing Institute	Available from
A/chicken/Guiyang/1153/2016	2.3.2.1c	SJCRH, USA HKU, China	Pending
A/chicken/Ghana/20/2015	2.3.2.1c	CDC, USA	Pending
A/environment/Hubei/950/2013	7.2	CCDC, China CDC, USA	Pending

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

CBER/FDA: CBERshippingrequests@fda.hhs.gov
CDC: dwentworth@cdc.gov (subject: CVV request)
CCDC: whocc-china@cnic.org.cn
NIBSC: standards@nibsc.org or enquiries@nibsc.org
NIID: nobusawa@nih.go.jp
NIV: niv.influenza@gmail.com
HKU: malik@hkucc.hku.hk
SJCRH: richard.webby@stjude.org

Reference antigens (freeze dried)

Starting materials		Ref Ag Lot number	Unitage (µgHA/ml)	Available from
Antigenic prototype	CVV			
A/Vietnam/1194/2004	NIBRG-14	09/184	67	NIBSC, UK
A/turkey/Turkey/1/2005	NIBRG-23	07/112	80	NIBSC, UK
A/Anhui/1/2005	IDCDC-RG6	07/290	99	NIBSC, UK
A/Cambodia/R0405050/2007	NIBRG-88	08/216	93	NIBSC, UK
A/Vietnam/1203/2004	161052 (SJCRH)	50	152	CBER/FDA, USA
A/Indonesia/5/2005	IDCDC-RG2	0904	77	CBER/FDA, USA
		2013/99B	85	TGA, Australia
A/Bar-headed goose/Qinghai/1A/2005	163222 (SJCRH)	63	69	CBER/FDA, USA

Sheep antisera

Antigenic prototype	Order Lot number	Available from
A/Anhui/1/2005-like	07/338	NIBSC, UK
	08/142	NIBSC, UK
A/Cambodia/R0405050/2007	08/210	NIBSC, UK
A/Hong Kong/489/97	98/666	NIBSC, UK
A/Vietnam/1203/2004	S-124, S-125	CBER/FDA, USA
A/Indonesia/5/2005	S-7854	CBER/FDA, USA
	AS406	TGA, Australia
A/Bar-headed goose/Qinghai/1A/2005	S-112SP	CBER/FDA, USA
A/Vietnam/1194/2004	07/148	NIBSC, UK
	09/192	NIBSC, UK
A/turkey/Turkey/1/2005	06/192	NIBSC, UK
	08/126 ^s	NIBSC, UK

Antigenic prototype	Order Lot number	Available from
A/duck/Viet Nam/NCVD-1584/2012	14/318	NIBSC, UK

[§] Anti NA serum for tests of neuraminidase identification

The above-listed potency testing reagents have been developed with support from manufacturers, and calibrated by the WHO Essential Regulatory Laboratories (ERLs) of the Global Influenza Surveillance and Response System (GISRS).

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

CBER/FDA: CBERShippingRequests@fda.hhs.gov
NIBSC: standards@nibsc.org or enquiries@nibsc.org
TGA: influenza.reagents@health.gov.au

Candidate vaccine viruses and potency testing reagents for influenza A(H5) non-A(H5N1) can be found on the WHO web site at
http://www.who.int/influenza/vaccines/virus/candidates_reagents/a_h5/en/

For information of other type and subtype candidate vaccine viruses and potency testing reagents, please go to: <http://www.who.int/influenza/vaccines/virus/en/>

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