

Summary of status of development and availability of A(H5N1) candidate vaccine viruses and potency testing reagents

5 March 2018

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*	NIBSC, UK	NIBSC, 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*	NIBSC, UK	NIBSC, 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*	NIV, India CDC, USA	NIV, India CDC, USA

Antigenic prototype	Clade	Candidate vaccine virus	Developing institute	Available from
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
A/turkey/Turkey/1/2005	2.2.1	Wild type virus		WHO CCs
		NIBRG-23*	NIBSC, UK	NIBSC, UK
A/Egypt/2321-NAMRU3/2007	2.2.1	Wild type virus		WHO CCs
		IDCDC-RG11*	CDC, USA	CDC, USA
A/Egypt/N03072/2010	2.2.1	Wild type virus		WHO CCs
		IDCDC-RG29*	CDC, USA	CDC, USA
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*	NIBSC, UK	NIBSC, 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/Hubei/1/2010	2.3.2.1a	Wild type virus		WHO CCs
		IDCDC-RG30*	CCDC, China CDC, USA	CCDC, China CDC, USA
A/duck/Bangladesh/19097/2013	2.3.2.1a	Wild type virus		WHO CCs
		SJ001*	SJCRH, USA	SJCRH, 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

Antigenic prototype	Clade	Candidate vaccine virus	Developing institute	Available from
A/duck/Viet Nam/NCVD-1584/2012	2.3.2.1c	Wild type virus		WHO CCs
		NIBRG-301*	NIBSC, UK	NIBSC, UK
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		Wild type virus		WHO CCs
	2.3.4	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
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/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.

¹ http://www.who.int/biologicals/areas/vaccines/influenza/biosafety_risk_assessment_10may2013.pdf

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

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

WHO CCs: http://www.who.int/influenza/gisrs_laboratory/collaborating_centres/

Reference antigens (freeze dried)

Starting materials		Ref Ag Lot number	Unitage (µgHA/ml)	Available from
Parent virus	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

Antisera directed against	Order Lot number	Available from
A/Anhui/1/2005-like	07/338	NIBSC, UK
	08/142	NIBSC, UK
A/Cambodia/R0405050/2007-like	08/210	NIBSC, UK
A/Hong Kong/489/97-like	98/666	NIBSC, UK
A/Vietnam/1203/2004-like	S-124, S-125	CBER/FDA, USA
A/Indonesia/5/2005-like	S-7854	CBER/FDA, USA
	AS406	TGA, Australia
A/Bar-headed goose/Qinghai/1A/2005-like	S-112SP	CBER/FDA, USA
A/Vietnam/1194/2004-like	07/148	NIBSC, UK
	09/192	NIBSC, UK
A/turkey/Turkey/1/2005-like	06/192	NIBSC, UK
	08/126 ^s	NIBSC, UK
A/duck/Viet Nam/NCVD-1584/2012-like	14/318	NIBSC, UK

^s Anti NA serum for tests of neuraminidase identification

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@tga.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