

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. [National or regional control authorities approve the composition and formulation of vaccines used in each country](#)

20 December 2013

Candidate vaccine viruses

Updated H5N1 nomenclature: http://www.who.int/influenza/gisrs_laboratory/h5n1_nomenclature/en/index.html

Parent virus	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
A/Cambodia/R0405050/2007	1.1	NIBRG-88	NIBSC, UK	NIBSC, UK
A/duck/Hunan/795/2002	2.1	SJRG-166614	SJCRH, USA HKU, China	SJCRH, USA
A/Indonesia/5/2005	2.1.3.2	CDC-RG2	CDC, USA	CDC, USA
A/Indonesia/NIHRD11771/2011-like	2.1.3.2	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

Candidate vaccine viruses continued

Parent virus	Clade	Candidate Vaccine Virus	Developing institute	Available from
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/common magpie/Hong Kong/5052/2007	2.3.2.1	SJRG-166615	SJCRH, USA HKU, China	SJCRH, USA
A/Hubei/1/2010	2.3.2.1	IDCDC-RG30	CCDC, China CDC, USA	CCDC, China CDC, USA
A/barn swallow/Hong Kong/D10-1161/2010-like	2.3.2.1	SJ-003	SJCRH, USA HKU, China	SJCRH, USA
A/duck/Laos/3295/2006	2.3.4	CBER-RG1	CBER/FDA, USA	CBER/FDA, USA
A/Anhui/1/2005	2.3.4	IBCDC-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-like	2.3.4	SJ-002	SJCRH, USA HKU, China	SJCRH, 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-like	7.1	IDCDC-RG25A	CDC, USA	CDC, USA

[#]A/Egypt /N03072/2010 is an A/Egypt/1394-NAMRU3/2007-like virus

Candidate vaccine viruses in preparation

Parent virus	Clade	Developing Institute	Available from
A/Cambodia/W0526301/2012-like	1.1	CDC	Pending
A/duck/Bangladesh/19097/2013-like	2.3.2.1	SJCRH	Pending
A/duck/Viet Nam/NCVD-1584/2012-like	2.3.2.1	NIBSC	Pending
A/chicken/Bangladesh/11rs1984-30/2011-like	2.3.4.2	CDC	Pending
A/Guizhou/1/2013-like	2.3.4.2	CDC/CCDC	Pending

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

CBER/FDA: Centre for Biologics Evaluation and Research / Food and Drug Administration, USA:

Zhiping.ye@fda.hhs.gov

NIBSC: National Institute for Biological Standards and Control, UK: standards@nibsc.org

SJCRH: St. Jude Children's Research Hospital, USA: richard.webby@stjude.org

NIV: National Institute of Virology, India: acm1750@rediffmail.com

NIID: National Institute of Infectious Diseases, Japan: nobusawa@nih.go.jp

HKU: University of Hong Kong , China Hong Kong SAR: malik@hkucc.hku.hk

CDC: Centers for Disease Control and Prevention , USA: rxd6@cdc.gov

CCDC: China Center for Disease Control and Prevention, China: yshu@cnic.org.cn

Reference antigens (freeze dried)

Starting materials		Ref. Ag. Lot#	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	IBCDC-RG6	07/290	99	NIBSC, UK
A/Cambodia/R0405050/2007	NIBRG-88	08/216	<i>to be announced</i>	NIBSC, UK
A/Vietnam/1203/2004	161052 (SJCRH)	50	152	CBER/FDA, USA
A/Indonesia/05/2005	IBCDC-RG2	0904 2013/99B*	77 85	CBER/FDA, USA TGA, Australia
A/Bar-headed goose/Qinghai/1A/2005	163222 (SJCRH)	63	69	CBER/FDA, USA

***new reference antigen**

Sheep antisera

Antisera directed against	Order Lot #	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/05/2005-like	S-7854 AS406*	CBER/FDA, USA TGA, Australia
A/Bar-headed goose/Qinghai/1A/2005-like	S-112SP	CBER/FDA, USA

***new reference antisera**

The above-listed potency testing reagents for A(H5N1) vaccines have been developed with support from WHO CCs, ERLs and designated Influenza A(H5N1) developing institutes, and calibrated by the Essential Regulatory Laboratories (ERLs) that provide advice to WHO as part of the influenza vaccine virus selection and development process.

ERLs contact details for reagent orders and other information:

CBER/FDA: CBERShippingRequests@fda.hhs.gov

NIBSC: standards@nibsc.org

TGA: influenza.reagents@tga.gov.au

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

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/>