



## Influenza A(H1N1)pdm09 egg-derived<sup>1</sup> candidate vaccine viruses for development and production of vaccines for use in the 2020-2021 northern hemisphere influenza season

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<sup>2</sup>](#)

28 February 2020 (Last updated 19 March 2020)

### Candidate vaccine viruses (CVVs) (antigenically like A/Guangdong-Maonan/SWL1536/2019)

Parent virus	Candidate vaccine virus	Type of virus or reassortant	Developing institute	Available from
A/Victoria/2454/2019	Wild type virus			VIDRL, Australia
	<b>IVR-207*</b>	Classical	Seqirus	VIDRL, Australia
A/Guangdong-Maonan/SWL1536/2019	Wild type virus			WHO CCs
	<b>CNIC-1909</b>	Classical	CNIC	CCDC, China CDC, USA FCI, UK NIBSC, UK NIID, Japan VIDRL, Australia

\* New CVV shown in blue font

#### Institutes contact details for candidate vaccine viruses orders/information:

CCDC: [whocc-china@cnic.org.cn](mailto:whocc-china@cnic.org.cn)

CDC: [dwentworth@cdc.gov](mailto:dwentworth@cdc.gov) (Subject: CVV request)

FCI: [whocc@crick.ac.uk](mailto:whocc@crick.ac.uk)

NIBSC: [standards@nibsc.org](mailto:standards@nibsc.org) or [enquiries@nibsc.org](mailto:enquiries@nibsc.org)

NIID: [flu-vaccine@nih.go.jp](mailto:flu-vaccine@nih.go.jp)

VIDRL: [whoflu@influenzacentre.org](mailto:whoflu@influenzacentre.org)

WHO CCs: [http://www.who.int/influenza/gisrs\\_laboratory/collaborating\\_centres/list/en/](http://www.who.int/influenza/gisrs_laboratory/collaborating_centres/list/en/)

<sup>1</sup> For cell-derived candidate vaccine viruses and reference reagents please see

[https://www.who.int/influenza/vaccines/virus/candidates\\_reagents/home/en/](https://www.who.int/influenza/vaccines/virus/candidates_reagents/home/en/)

<sup>2</sup> [https://www.who.int/immunization\\_standards/national\\_regulatory\\_authorities%20/offices/](https://www.who.int/immunization_standards/national_regulatory_authorities%20/offices/)

## Influenza A(H3N2) egg-derived<sup>1</sup> candidate vaccine viruses for development and production of vaccines for use in the 2020-2021 northern hemisphere influenza season

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.

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**28 February 2020 (last updated 27 March 2020)**

### Candidate vaccine viruses (antigenically like A/Hong Kong/2671/2019)

Parent virus	Candidate vaccine virus	Type of virus or reassortant	Developing institute	Available from
A/Hong Kong/2671/2019	Wild type virus			CDC, USA FCI, UK VIDRL, Australia
	<b>IVR-208*</b>	Classical	Seqirus	VIDRL, Australia
	<b>NIB-121</b>	Classical	NIBSC	NIBSC, UK

*\*New CVV shown in blue font*

#### Institutes contact details for candidate vaccine virus orders/information:

**CDC:** [dwentworth@cdc.gov](mailto:dwentworth@cdc.gov) (Subject: CVV request)

**FCI:** [whocc@crick.ac.uk](mailto:whocc@crick.ac.uk)

**NIBSC:** [standards@nibsc.org](mailto:standards@nibsc.org) or [enquiries@nibsc.org](mailto:enquiries@nibsc.org)

**VIDRL:** [whoflu@influenzacentre.org](mailto:whoflu@influenzacentre.org)

**WHO CCs:** [http://www.who.int/influenza/gisrs\\_laboratory/collaborating\\_centres/list/en/](http://www.who.int/influenza/gisrs_laboratory/collaborating_centres/list/en/)

<sup>1</sup> For cell-derived candidate vaccine viruses and reference reagents please see [https://www.who.int/influenza/vaccines/virus/candidates\\_reagents/home/en/](https://www.who.int/influenza/vaccines/virus/candidates_reagents/home/en/)

<sup>2</sup> [http://www.who.int/immunization\\_standards/national\\_regulatory\\_authorities%20offices/en/](http://www.who.int/immunization_standards/national_regulatory_authorities%20offices/en/)

## Influenza B Yamagata lineage egg-derived<sup>1</sup> candidate vaccine viruses for development and production of vaccines for use in the 2020-2021 northern hemisphere influenza season

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**28 February 2020**

### Candidate vaccine viruses (antigenically like B/Phuket/3073/2013)

Parent virus	Candidate vaccine virus	Type of virus or reassortant	Developing institute	Available from
<b>B/Phuket/3073/2013</b>	Wild type virus			WHO CCs WHO ERLs
	<b>BVR-1B</b>	Classical	Seqirus	VIDRL, Australia
<b>B/California/12/2015</b>	Wild type virus			CDC, USA
	<b>BX-59A</b>	Classical	NYMC	NIBSC, UK NYMC, USA
	<b>BX-59B</b>	Classical	NYMC	NIBSC, UK NYMC, USA
<b>B/Brisbane/9/2014</b>	Wild type virus			WHO CCs WHO ERLs
<b>B/Utah/09/2014</b>	Wild type virus			CDC, USA NIBSC, UK
<b>B/Hong Kong/432/2013</b>	Wild type virus			NYMC, USA
<b>B/Arizona/10/2015</b>	Wild type virus			NIBSC, UK
	<b>BX-63</b>	Classical	NYMC	NIBSC, UK NYMC, USA
	<b>BX-63A</b>	Classical	NYMC	NIBSC, UK NYMC, USA
<b>B/Hong Kong/3417/2014</b>	Wild type virus			NYMC, USA
	<b>BX-57</b>	Classical	NYMC	

**Institutes contact details for candidate vaccine virus orders/information:**

<sup>1</sup> For cell-derived candidate vaccine viruses and reference reagents please see

[https://www.who.int/influenza/vaccines/virus/candidates\\_reagents/home/en/](https://www.who.int/influenza/vaccines/virus/candidates_reagents/home/en/)

<sup>2</sup> [https://www.who.int/immunization\\_standards/national\\_regulatory\\_authorities%20/offices/](https://www.who.int/immunization_standards/national_regulatory_authorities%20/offices/)

## Influenza B Victoria lineage egg-derived<sup>1</sup> candidate vaccine viruses for development and production of vaccines for use in the 2020-2021 northern hemisphere influenza season

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**28 February 2020**

### Candidate vaccine viruses (antigenically like B/Washington/02/2019)

Parent virus	Candidate vaccine virus	Type of virus or reassortant	Developing institute	Available from
<b>B/Washington/02/2019</b>	Wild type virus			WHO CCs NIBSC, UK
	<b>BX-85C</b>	Classical	NYMC	NYMC, USA
<b>B/Brisbane/35/2018</b>	Wild type virus			WHO CCs WHO ERLs
<b>B/Victoria/705/2018</b>	Wild type virus			WHO CCs WHO ERLs
	<b>BVR-11</b>	Classical	VIDRL, Australia	CCDC, China FCI, UK NIBSC, UK NIID, Japan VIDRL, Australia
<b>B/Sichuan-Gaoxin/531/2018</b>	Wild type virus			WHO CCs WHO ERLs
	<b>CNIC-1906</b>	Classical	CCDC, China	CCDC, China FCI, UK NIBSC, UK NIID, Japan VIDRL, Australia

<sup>1</sup> For cell-derived candidate vaccine viruses and reference reagents please see

[https://www.who.int/influenza/vaccines/virus/candidates\\_reagents/home/en/](https://www.who.int/influenza/vaccines/virus/candidates_reagents/home/en/)

<sup>2</sup> [https://www.who.int/immunization\\_standards/national\\_regulatory\\_authorities%20/offices/](https://www.who.int/immunization_standards/national_regulatory_authorities%20/offices/)