

**Influenza A Virus, A/California/07/2009 (HA, NA) x A/Puerto Rico/8/1934 (H1N1)pdm09, Reassortant NYMC X-181**

**Catalog No. NR-44004**

**For research use only. Not for human use.**

**Contributor:**

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**Manufacturer:**

BEI Resources

**Product Description:**

Virus Classification: *Orthomyxoviridae, Influenzavirus A*

Species: Influenza A virus

Reassortant: A/California/07/2009 (HA, NA) x A/Puerto Rico/8/1934 (H1N1)pdm09

Preparation: NR-44004 is a classical reassortant virus derived from A/California/07/2009 (H1N1)pdm09 and reassortant NYMC X-157. The HA and NA proteins are from A/California/07/2009 (H1N1)pdm09.<sup>1,2</sup> NYMC X-157 is A/New York/55/2004 (HA, NA) x A/Puerto Rico/8/1934 (H3N2).

Comments: Influenza A virus, A/California/07/2009 (H1N1)pdm09 was isolated from a 54-year-old man in California, USA on April 9, 2009. The US Food and Drug Administration recommended influenza A/California/07/2009 (H1N1)pdm09-like viruses for use as vaccines during the 2009 influenza pandemic<sup>3</sup> and during the 2010-2011, 2011-2012, 2012-2013, and 2013-2014 influenza seasons.<sup>4-7</sup> The World Health Organization has recommended influenza A/California/07/2009 (H1N1)pdm09-like viruses for use as vaccines since the 2010-2011 Northern Hemisphere and the 2010 Southern Hemisphere influenza seasons.<sup>8</sup> Sequence information is available for reassortant NYMC X-181 at the [Influenza Research Database](#).

**Material Provided:**

Each vial contains approximately 1 mL of pooled allantoic fluid from specific pathogen free (SPF) embryonated chicken eggs infected with reassortant influenza A virus, A/California/07/2009 (HA, NA) x A/Puerto Rico/8/1934 (H1N1)pdm09.

Note: If homogeneity is required for your intended use, please purify prior to initiating work.

**Packaging/Storage:**

NR-44004 was packaged aseptically in screw-capped plastic cryovials. The product is provided frozen and should be stored at -60°C or colder immediately upon arrival. For long-

term storage, the vapor phase of a liquid nitrogen freezer is recommended. Freeze-thaw cycles should be avoided.

**Growth Conditions:**

Host: 9- to 11-day-old SPF embryonated chicken eggs

Infection: Embryonated chicken eggs must be candled for viability prior to inoculation

Incubation: 2 days at 35°C in a humidified chamber

Effect: Hemagglutination activity using chicken red blood cells and allantoic fluid from infected embryonated chicken eggs

**Citation:**

Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: Influenza A Virus, A/California/07/2009 (HA, NA) x A/Puerto Rico/8/1934 (H1N1)pdm09, Reassortant NYMC X-181, NR-44004."

**Biosafety Level: 2**

Appropriate safety procedures should always be used with this material. Laboratory safety is discussed in the following publication: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, and National Institutes of Health. Biosafety in Microbiological and Biomedical Laboratories. 5th ed. Washington, DC: U.S. Government Printing Office, 2009; see [www.cdc.gov/biosafety/publications/bmbl5/index.htm](http://www.cdc.gov/biosafety/publications/bmbl5/index.htm).

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**References:**

1. Fulvini, A. A., et al. "Gene Constellation of Influenza A Virus Reassortants with High Growth Phenotype Prepared as Seed Candidates for Vaccine Production." *PLoS One* 6 (2011): e20823. PubMed: 21695145.
2. Ramanunnair, M., et al. "Molecular Signature of High Yield (Growth) Influenza A Virus Reassortants Prepared as Candidate Vaccine Seeds." *PLoS One* 8 (2013): e65955. PubMed: 23776579.
3. [Use of Influenza A \(H1N1\)pdm09 2009 Monovalent Vaccine: Recommendations of the Advisory Committee on Immunization Practices, 2009.](#) PubMed: 19713882.
4. [Prevention and Control of Influenza with Vaccines: Recommendations of the Advisory Committee on Immunization Practices, 2010.](#) PubMed: 20689501.
5. [Prevention and Control of Influenza with Vaccines: Recommendations of the Advisory Committee on Immunization Practices, 2011.](#) PubMed: 21866086.
6. [Prevention and Control of Influenza with Vaccines: Recommendations of the Advisory Committee on Immunization Practices, United States, 2012-2013 Influenza Season.](#) PubMed: 22895385.
7. [Prevention and Control of Influenza with Vaccines: Recommendations of the Advisory Committee on Immunization Practices, United States, 2013-2014.](#) PubMed: 24048214.
8. [WHO Recommendations for Influenza Vaccines](#)

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