

**Kilbourne F140: A/New Jersey/11/1976 (HA, NA) x A/Puerto Rico/8/1934 (H1N1), Reassortant/Mutant X-53a (CL), High (H) Yield**

**Catalog No. NR-3617**

Derived from NIAID Catalog No. V-331-0E5497

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**Contributor:**

National Institute of Allergy and Infectious Diseases (NIAID), National Institutes of Health (NIH)

**Manufacturer:**

BEI Resources

**Product Description:**

Virus Classification: *Orthomyxoviridae, Influenzavirus A*

Species: Influenza A virus

Reassortant/Mutant: A/New Jersey/11/1976 (HA, NA) x A/Puerto Rico/8/1934 (H1N1) [Kilbourne F140; X-53a (CL) (H)]<sup>1-3</sup>

Parents: X-53a (H1N1)

Comments: NR-3617 was biologically cloned from reassortant/mutant X53a (Kilbourne F139; BEI Resources NR-3581)<sup>4</sup> by limiting dilution passage in embryonated chicken eggs. X-53a, in turn, is a high yield hemagglutinin mutant that was derived by selective passage of X-53 (Kilbourne F128; BEI Resources NR-3664)<sup>5</sup> in the presence of "L" variant-suppressive antiserum. X-53 is A/New Jersey/11/1976 (HA, NA) x A/Puerto Rico/8/1934 (H1N1).

NR-3617 exhibits a true high yield (H) biologic phenotype *in vitro*.<sup>1</sup> The HA and NA genes of NR-3617 are definitively derived from influenza A/New Jersey/11/1976 (H1N1), a human isolate recovered during the 1976 swine flu epidemic at Fort Dix, NJ. All other genes are from A/Puerto Rico/8/1934 (H1N1). Unclassified X-53a was used for mass immunization of over 40 million people in the 1976 National Immunization Program against swine flu.<sup>1,4</sup> The derivation and properties of various A/New Jersey/11/1976 (H1N1) reassortants, as well as cloned derivatives, mutants, and re-reassortants thereof, have been described in detail.<sup>6,7,8</sup>

**Material Provided:**

Each vial contains approximately 1 mL of pooled allantoic fluid from specific pathogen free (SPF) embryonated chicken eggs infected with cloned, high yield, reassortant/mutant influenza A virus, A/New Jersey/11/1976 (HA, NA) x A/Puerto Rico/8/1934 (H1N1).

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

**Packaging/Storage:**

NR-3617 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: Kilbourne F140: A/New Jersey/11/1976 (HA, NA) x A/Puerto Rico/8/1934 (H1N1), Reassortant/Mutant X-53a (CL), High (H) Yield, NR-3617."

**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/bmb15/index.htm](http://www.cdc.gov/biosafety/publications/bmb15/index.htm).

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**References:**

1. <https://www.beiresources.org/Portals/2/Flu-archiveDocs/F140.doc>
2. <https://www.beiresources.org/Flu-archive.aspx>
3. <https://www.beiresources.org/FluVirusCatalog.aspx>
4. <https://www.beiresources.org/Portals/2/Flu-archiveDocs/F139.doc>
5. <https://www.beiresources.org/Portals/2/Flu-archiveDocs/F128.doc>
6. Both, G.W., et al. "Influenza A Virus Hemagglutinin of Swine Influenza Virus: A Single Amino Acid Change Pleiotropically Affects Viral Antigenicity and Replication." Proc. Natl. Acad. Sci. USA. 80 (1983): 6996-7000. PubMed.
7. Kilbourne, E. D. "Genetic Dimorphism in Influenza Viruses: Characterization of Stably Associated Hemagglutinin Mutants Differing in Antigenicity and Biological Properties." Proc. Natl. Acad. Sci. USA. 75 (1978): 6258-6262. PubMed: 282644.
8. Kilbourne, E. D., W. Gerhard and C. W. Whitaker. "Monoclonal Antibodies to the Hemagglutinin Sa Antigenic Site of A/PR/8/34 Influenza Virus Distinguish Biologic Mutants of Swine Influenza Virus." Proc. Natl. Acad. Sci. USA. 80 (1983): 6399-6402. PubMed: 6194531.

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