

**Influenza A Virus, A/WSN/1933 (H1N1), Wild Type (ts+) Clone (Kilbourne F68)**

**Catalog No. NR-3688**

Derived from NIAID Catalog No. V-331-OTC451

**For research use only. Not for use in humans.**

**Contributor:**

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

**Manufacturer:**

BEI Resources

**Product Description:**

Virus Classification: *Orthomyxoviridae, Alphainfluenzavirus*

Species: Influenza A virus

Strain/Isolate: A/WSN/1933 (H1N1) wild type (ts+) clone (Kilbourne F68)<sup>1</sup>

Original Source: Influenza A virus A/WSN/1933 (H1N1) wild type (ts+) clone (Kilbourne F68) is a heat stable (ts+) clone of the WSN strain of influenza A virus derived by three successive rounds of plaque purification on Madin-Darby Bovine Kidney cells propagated at 39.5°C. The cloned virus was used to generate a series of temperature-sensitive influenza mutants.

Comments: Sequence information is available for influenza A virus, A/WSN/1933 (H1N1) at the [Bacterial and Viral Bioinformatics Resource Center](#).

Removal of contaminating mycoplasma from NR-3688 required six virus passages at BEI Resources.

**Material Provided:**

Each vial contains approximately 1.0 mL of cell lysate and supernatant from Madin-Darby Canine Kidney (MDCK) cells (ATCC® CCL-34) infected with influenza A virus, A/WSN/1933 (H1N1), wild type (ts+) clone.

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

**Packaging/Storage:**

NR-3688 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: Madin-Darby Canine Kidney cells (MDCK; ATCC® CCL-34™)

Growth Medium: Eagle's Minimum Essential Medium supplemented with 0.125% bovine serum albumin and 1 µg/mL L-1-tosylamido-2-phenylethyl chloromethyl ketone (TPCK)-treated trypsin, or equivalent

Infection: Cells should be 60% to 70% confluent

Incubation: 6 to 10 days at 37°C and 5% CO<sub>2</sub>

Cytopathic Effect: Cell rounding and sloughing

**Citation:**

Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: Influenza A Virus, A/WSN/1933 (H1N1), Wild Type (ts+) Clone (Kilbourne F68), NR-3688."

**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 \(BMBL\)](#). 6th ed. Washington, DC: U.S. Government Printing Office, 2020.

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**References:** A., K. Tobita, and E. D. Kilbourne. "Isolation and Preliminary Characterization of Temperature-Sensitive

Mutants of Influenza Virus." J. Virol. 10 (1972): 639-647.  
PubMed: 4673486.

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