

## Influenza A Virus, A/WS/33 (H1N1) (Tissue-culture adapted)

### Catalog No. NR-2759

(Derived from ATCC® VR-1520™)

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

#### Contributor:

ATCC®

#### Product Description:

Virus Classification: *Orthomyxoviridae, Influenzavirus A*

Species: Influenza A virus

Strain/Isolate: A/WS/33 (H1N1) [A/Wilson-Smith/33 (H1N1)]  
(tissue-culture adapted)

Source: Derived from ATCC® VR-1520™. ATCC® VR-1520™ was derived through tissue culture adaptation of ATCC® 825™, which was isolated in 1933 from throat washings of a patient with influenza.<sup>1</sup>

Comments: Influenza A virus, A/WS/33 (H1N1) was deposited at ATCC® by W. Adrian Chappell, Ph.D. The complete genomic sequence of influenza A/WS/33 (H1N1) has been submitted (GenBank: CY009604 to CY009611).<sup>2</sup>

Influenza A virus, A/WS/33 (H1N1) is the first human isolate of influenza virus and considered to have descended from the strain responsible for the 1918 pandemic.<sup>3</sup>

#### Material Provided:

Each vial contains approximately 1 mL of cell lysate and supernatant from Madin-Darby canine kidney cells (MDCK; ATCC® CCL-34™) infected with influenza A virus, A/WS/33 (H1N1) (tissue-culture adapted).

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

#### Packaging/Storage:

NR-2759 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: MDCK cells (ATCC® CCL-34™)

Growth Medium: Minimum Essential Medium supplemented with 1 µg/mL TPCK-treated trypsin and 0.125% Bovine Serum Albumin, or equivalent (lot-specific details are on the Certificate of Analysis)

Infection: Cells should be 80–90% confluent (not 100% confluent)

Incubation: 3 to 5 days at 33°C to 35°C and 5% CO<sub>2</sub>

Cytopathic Effect: Cell rounding and detachment

#### Citation:

Acknowledgment for publications should read “The following reagent was obtained through the NIH Biodefense and Emerging Infections Research Resources Repository, NIAID, NIH: Influenza A Virus, A/WS/33 (H1N1) (Tissue-culture adapted), NR-2759.”

#### 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, 2007; see [www.cdc.gov/od/ohs/biosfty/bmbl5/bmbl5toc.htm](http://www.cdc.gov/od/ohs/biosfty/bmbl5/bmbl5toc.htm).

#### Disclaimers:

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#### References:

1. Smith, W., et al. “A Virus Obtained from Influenza Patients.” *Lancet* 2 (1933): 66–68.
2. Ghedin, E., et al. “The NIAID Influenza Genome

- Sequencing Project." Direct submission (2006).
3. Zambon, M. C. "The Pathogenesis of Influenza in Humans." Rev. Med. Virol. 11 (2001): 227–241. PubMed: 11479929.
  4. Hoffman, E., et al. "Universal Primer Set for the Full-length Amplification of All Influenza A Viruses." Arch. Virol. 146 (2001): 2275–2289. PubMed: 11811679.
  5. Ward, A. C. "Changes in the Neuraminidase of Neurovirulent Influenza Virus Strains." Virus Genes 10 (1995): 253–260. PubMed: 8560787.
  6. Ward, A. C., et al. "Complete Nucleotide Sequence of the Non-structural Gene of the Human Influenza Virus Strain A/WS/33." Nucleic Acids Res. 21 (1993): 2257. PubMed: 8502573.
  7. Burnet, F. M. "A Genetic Approach to Variation in Influenza Viruses; the Characters of Three Substrains of Influenza Virus A (WS)." J. Gen. Microbiol. 5 (1951): 46–53. PubMed: 14824469.

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