

Influenza A Virus, A/Connecticut/11/2023 (H1N1)pdm09 with NA-I223V and NA-S247N Mutations

Catalog No. NR-59881

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Product Description:

Influenza A virus, A/Connecticut/11/2023 (H1N1)pdm09 was collected from a nasopharyngeal swab of a pediatric human with flu-like symptoms on October 14, 2023 in Connecticut, USA and isolated at the Centers for Disease Control and Prevention in February 2024. NR-59881 contains two confirmed mutations, NA-I223V and NA-S247N, which result in reduced oseltamivir inhibition. NR-59881 was produced by infecting Madin-Darby canine kidney SIAT1 (MDCK-SIAT1; Sigma 05071502-1VL) cells with the deposited material and incubating in Dulbecco's Modified Eagle's Medium (ATCC® 30-2002™) supplemented with 0.2% bovine serum albumin and 1 µg/mL L-1-tosylamido-2-phenylethyl chloromethyl ketone (TPCK)-treated trypsin for 2 days at 37°C and 5% CO₂ to produce this lot.

Passage History:

S(1)/S(1)/S(1) (Connecticut State Health Laboratory/Centers for Disease Control and Prevention/BEI Resources);
S = MDCK-SIAT1 cells

Lot: 70070077

Manufacturing Date: 28JUL2024

TEST	SPECIFICATIONS	RESULTS
Identification by Infectivity in MDCK-SIAT1 Cells	Cell rounding and detachment	Cell rounding and detachment
Next-Generation Sequencing (NGS) of Complete Genome Using Illumina® iSeq™ Platform Hemagglutinin (~ 1750 nucleotides) Matrix (~ 1000 nucleotides) Neuraminidase (~ 1430 nucleotides)	≥ 98% identity with A/Connecticut/11/2023 (H1N1pdm09) (GenBank: PP305336) ≥ 98% identity with A/Connecticut/11/2023 (H1N1pdm09) (GenBank: PP305347) ≥ 98% identity with A/Connecticut/11/2023 (H1N1pdm09) (GenBank: PP305338)	100% identity with A/Connecticut/11/2023 (H1N1pdm09) (GenBank: PP305336) 100% identity with A/Connecticut/11/2023 (H1N1pdm09) (GenBank: PP305347) 100% identity with A/Connecticut/11/2023 (H1N1pdm09) (GenBank: PP305338)
Titer by TCID₅₀ Assay in MDCK-SIAT1 Cells with Hemagglutination Assay^{1,2,3} 3 days at 37°C with 5% CO ₂	Report results	2.8 × 10 ⁶ TCID ₅₀ /mL
Sterility (21-day incubation) Harpo's HTYE broth, 37°C and 26°C, aerobic ³ Trypticase Soy broth, 37°C and 26°C, aerobic Sabouraud broth, 37°C and 26°C, aerobic Sheep blood agar, 37°C, aerobic Sheep blood agar, 37°C, anaerobic Thioglycollate broth, 37°C, anaerobic DMEM with 10% FBS, 37°C, aerobic	No growth No growth No growth No growth No growth No growth No growth	No growth No growth No growth No growth No growth No growth No growth
Mycoplasma Contamination Agar and broth culture (14-day incubation at 37°C) DNA detection by PCR of extracted Test Article nucleic acid	None detected None detected	None detected None detected

¹The Tissue Culture Infectious Dose 50% (TCID₅₀) endpoint is the 50% infectious endpoint in cell culture. The TCID₅₀ is the dilution of virus that under the conditions of the assay can be expected to infect 50% of the culture vessels inoculated, just as a Lethal Dose 50% (LD₅₀) is expected to kill half of the animals exposed. A reciprocal of the dilution required to yield the TCID₅₀ provides a measure of the infectious titer (or infectivity) of a virus preparation.

²Titer was determined at 3 days incubation due to deterioration of the monolayer.

³Using 0.5% turkey RBCs

⁴Atlas, Ronald M. Handbook of Microbiological Media. 3rd ed. Ed. Lawrence C. Parks. Boca Raton: CRC Press, 2004, p. 798.

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