

## **Certificate of Analysis for NR-3676**

Kilbourne F22: A/swine/Wisconsin/56/1976 (H) (H1N1), Mutant, High Yield, Swine Isolate

Catalog No. NR-3676

Product Description: Pooled allantoic fluid from specific-pathogen free (SPF) embryonated chicken eggs<sup>1</sup> infected with (Kilbourne F22) influenza A virus, A/swine/Wisconsin/56/1976 (H) (H1N1).

Lot<sup>2,3</sup>: 59628174 Manufacturing Date: 13JAN2011

TEST	SPECIFICATIONS	RESULTS
Identification by Infectivity Using Embryonated Chicken Eggs Hemagglutination activity using allantoic fluid from infected eggs and 0.5% chicken red blood cells	Positive	Positive
Sequencing of Species- and Strain-Specific Regions <sup>4</sup> Hemagglutinin gene (~ 420 nucleotides)  Matrix gene (~ 920 nucleotides)	Consistent with H1N1 influenza A virus Consistent with H1N1 influenza A virus	Consistent with H1N1 influenza A virus Consistent with H1N1 influenza A virus
Titer by CEID <sub>50</sub> Assay <sup>5,6</sup> in Embryonated Chicken Eggs <sup>1</sup>	Report results	8.9 X 10 <sup>7</sup> CEID <sub>50</sub> /mL
Sterility (21-day incubation)  Harpo's HTYE broth <sup>7</sup> , 37°C and 26°C, aerobic Trypticase soy broth, 37°C and 26°C, aerobic Sabouraud broth, 37°C and 26°C, aerobic Blood agar, 37°C, aerobic Blood agar, 37°C, anaerobic Thioglycollate broth, 37°C, anaerobic DMEM with 10% FBS, 37°C and 5% CO <sub>2</sub>	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

<sup>&</sup>lt;sup>1</sup>9 to 11-day-old SPF Embryonated Chicken Eggs acquired from B&E Eggs, York Springs, Pennsylvania

Date: 07 JUN 2011

Title:

Signature: Dorothy C. Young

Technical Manager, BEI Authentication or designee

ATCC®, on behalf of BEI Resources, hereby represents and warrants that the material provided under this certificate has been subjected to the tests and procedures specified and that the results described, along with any other data provided in this certificate, are true and accurate to the best of ATCC®'s knowledge.

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<sup>&</sup>lt;sup>2</sup>Derived from NIAID Catalog No. V-331-0E5564

<sup>&</sup>lt;sup>3</sup>Grown in the allantoic cavity of embryonated chicken eggs<sup>1</sup> for 2 days at 35°C in a humidified chamber

<sup>&</sup>lt;sup>4</sup>The HA and MP sequences of influenza A/swine/Wisconsin/56/1976 are not in the NCBI database; the sequences obtained for NR-3676 are consistent with those of H1N1 influenza viruses isolated from swine in North America in 1976 and 1977.

<sup>&</sup>lt;sup>5</sup>The Chicken Embryo Infectious Dose 50% (CEID<sub>50</sub>) is the dilution of virus that under the conditions of the assay can be expected to infect 50% of the inoculated embryonated chicken eggs, 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 CEID<sub>50</sub> provides a measure of the infectious titer (or infectivity) of a virus preparation.

<sup>&</sup>lt;sup>6</sup>2 days at 35°C in a humidified chamber

<sup>&</sup>lt;sup>7</sup>Atlas, Ronald M. <u>Handbook of Microbiological Media</u>. 3rd ed. Ed. Lawrence C. Parks. Boca Raton: CRC Press, 2004, p. 798.