

## **Certificate of Analysis for NR-3528**

Kilbourne F84: A/turkey/Massachusetts/3740/1975 (HA) x A/Shangdong/9/1993 (NA) x A/Puerto Rico/8/1934 (H6N2), Reassortant X-122

Catalog No. NR-3528

**Product Description:** Pooled allantoic fluid from specific pathogen free (SPF) embryonated chicken eggs<sup>1</sup> infected with reassortant influenza A virus, A/turkey/Massachusetts/3740/1975 (HA) x A/Shangdong/9/1993 (NA) x A/Puerto Rico/8/1934 (H6N2), Reassortant X-122

Lot<sup>2,3</sup>: 61230128 Manufacturing Date: 20SEP2012

TEST	SPECIFICATIONS	RESULTS
Identification by Infectivity Using Embryonated Chicken Eggs <sup>1</sup> Hemagglutination activity using allantoic fluid from infected eggs and 0.5% chicken red blood cells	Positive	Positive
Sequencing of Hemagglutinin and Matrix Coding Regions		
Hemagglutinin (294 nucleotides)	Consistent with A/turkey/Massachusetts/3740/ 1965 (H6N2) <sup>4</sup>	99% identity with A/turkey/Massachusetts/3740/ 1965 (H6N2) (GenBank: CY087752) <sup>4</sup>
Matrix (906 nucleotides)	Consistent with A/Puerto Rico/8/1934 (H1N1)	100% identity with A/Puerto Rico/8/1934 (H1N1) (Gen Bank: CY105897)
Neuraminidase (466 nucleotides)	Consistent with A/Shangdong/9/1993 (H3N2)	99% identity with A/Shangdong/9/1993 (H3N2) (GenBank: CY114119)
Titer by CEID <sub>50</sub> Assay <sup>5,6</sup> in Embryonated Chicken Eggs <sup>1</sup>	Report results	$1.6 \times 10^8$ CEID <sub>50</sub> per 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>10-day-old SPF Embryonated Chicken Eggs acquired from B&E Eggs, York Springs, Pennsylvania

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<sup>&</sup>lt;sup>2</sup>Derived from NIAID Catalog No. V-331-0E5119

<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>There is no sequence information for influenza A virus, A/turkey/Massachusetts/3740/1975 (H6N2) in the NCBI database or any of the various influenza databases. The hemagglutinin gene sequence obtained for NR-3528 is 99% identical to the published sequence of influenza A virus, A/turkey/Massachusetts/3740/1965 (H6N2). A review of the literature suggests that these two strain designations likely represent the same virus isolate, and that the progenitor of reassortant X-122 was originally isolated in 1965.

<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% (LD<sub>50</sub>) 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

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



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Date: 25 JAN 2013 Signature: Millar & Copy la

Title: Technical Manager, BEI Authentication or designee

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