

## **Certificate of Analysis for NR-660**

## H5 Hemagglutinin (HA) Protein from Influenza Virus, A/Vietnam/1203/2004 (H5N1), Recombinant from baculovirus

## Catalog No. NR-660

This reagent is the tangible property of the U.S. Government.

Recombinant H5 hemagglutinin (HA) protein from influenza virus **Product Description:** A/Vietnam/1203/2004 (H5N1) was produced in Sf9 insect cells using a baculovirus expression vector system<sup>1</sup> and was purified using conventional chromatographic techniques.

Lot: 59137402 Manufacturing Date: JAN2010

TEST	SPECIFICATIONS	RESULTS
SDS-PAGE (Coomassie Blue Densitometer Scan)	Report results	HA bands (HA0, HA1, HA2) account for > 90% of total density
Concentration by Bicinchoninic Acid Protein Assay <sup>2</sup>	Report results	860 μg per mL (JAN2010)
Functional Activity Hemagglutination titer using 0.5% chicken red blood cells	Report results	1:20480
Hemagglutination inhibition (HI) assay <sup>3</sup> using polyclonal antiserum to 16 HA subtypes	Specific to H5 HA subtype	Specific to H5 HA subtype
HI titers <sup>3</sup> using polyclonal antiserum to H5 HA subtype A/Hong Kong/156/1997 (H5/N1) and A/Hong Kong/483/1997 sheep antiserum <sup>4</sup> A/Vietnam/1203/2004 (H5N1) goat antiserum <sup>5</sup> A/Vietnam/1203/2004 (H5N1) and A/Hong Kong/213/2003 (H5N1) goat antiserum <sup>6</sup> A/BHG/Qinghai/1A/2005 (H5N1) goat antiserum <sup>7</sup>	Report results Report results Report results Report results	1:256 1:320 1:1280 1:160
HI titers <sup>3</sup> using monoclonal antibody to H5 HA subtype A/Vietnam/1203/2004 (H5N1) antibody (VN04-8) <sup>8</sup> A/Vietnam/1203/2004 (H5N1) antibody (VN04-13) <sup>9</sup> A/Vietnam/1203/2004 (H5N1) antibody (VN04-16) <sup>10</sup>	Report results Report results Report results	1:6400 1:3200 1:3200
Sterility	0.22 µm filter-sterilized	0.22 µm filter-sterilized
Bacterial Contamination	Report results	Negative
Endotoxin Content (Limulus Amoebocyte Lysate assay)	Report results	< 20 EU per mL

<sup>&</sup>lt;sup>1</sup>U.S. Patent Numbers 5,762,939 and 6,103,526.

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<sup>&</sup>lt;sup>2</sup>Pierce Biotechnology, Inc.

<sup>&</sup>lt;sup>3</sup>Serum samples were incubated overnight with receptor-destroying enzyme and heated for 30 minutes at 56°C.

<sup>&</sup>lt;sup>4</sup>BEI Resources NR-665

<sup>&</sup>lt;sup>5</sup>BEI Resources NR-2705

<sup>&</sup>lt;sup>6</sup>BEI Resources NR-2706

<sup>&</sup>lt;sup>7</sup>BEI Resources NR-14818

<sup>&</sup>lt;sup>8</sup>BEI Resources NR-2731 <sup>9</sup>BEI Resources NR-2740

<sup>&</sup>lt;sup>10</sup>BEI Resources NR-2743



## **Certificate of Analysis for NR-660**

**Date:** 30 APR 2014

Signature:

Title: Technical Manager, BEI Authentication or designee

Dorothy C. Young

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