Certificate of Analysis for NR-19239

Hemagglutinin (HA) Protein from Influenza Virus, B/Brisbane/60/2008, Recombinant from Baculovirus

Catalog No. NR-19239

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

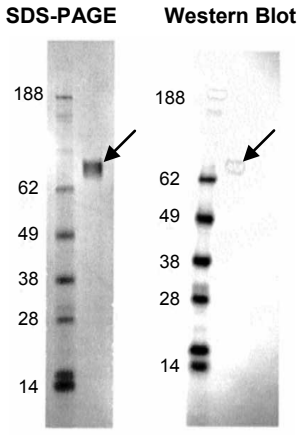
Product Description: Hemagglutinin (HA) protein from influenza virus, B/Brisbane/60/2008 is a full-length glycosylated recombinant protein that was produced in Sf9 insect cells using a baculovirus expression vector system.[1] Recombinant HA protein was purified under conditions that preserve its biological activity and tertiary structure.

Lot: 59311907 **Manufacturing Date: 03JUN2010**

TEST (Required)	SPECIFICATIONS	RESULTS
SDS-PAGE (Coomassie Blue Densitometry)	HA bands (HA0, HA1, HA2) account for > 90% of total density	HA bands (HA0, HA1, HA2) account for > 90% of total density (Figure 1)
Concentration by Bicinchoninic Acid Protein Assay	Report results	1,295 µg per mL
Hemagglutination (HA) Assay with Chicken Red Blood Cells	Report results	1,920 HA units per µg
Final Product Quantity per vial Volume per vial	 100 µg (± 10%) per vial Report results	 103.6 µg per vial 80 µL per vial
Western Blot Anti-histidine monoclonal antibody	 Report results	 Reactive with HA0 (Figure 1)
Filtration	0.22 µm filtered	0.22 µm filtered
Bioburden	Report results	< 10 colony-forming units per mL
Endotoxin Content	Report results	< 1.25 EU per mL

[1]U.S. Patent Numbers 5,762,939 and 6,103,526.

Figure 1



Lane 1: Invitrogen™ MW Marker
Lane 2: 1.0 µg NR-19239

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Date: 03 NOV 2010

Signature: Dorothy C. Young

Title: 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 by the contractor 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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