

## Certificate of Analysis for NR-44081

## H7 Hemagglutinin (HA) Protein from Influenza Virus, A/Anhui/1/2013 (H7N9), Recombinant from Baculovirus

## Catalog No. NR-44081

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

**Product Description:** A recombinant form of the H7 hemagglutinin (HA) protein from influenza A virus, A/Anhui/1/2013 (H7N9) was produced in Sf9 insect cells using a baculovirus expression vector system, purified by nickel affinity chromatography, and treated with thrombin to remove a C-terminal histidine tag.

Lot: 63476588 Manufacturing Date: 24JUN2015

| TEST                                                   | SPECIFICATIONS                                                        | RESULTS                                                                             |
|--------------------------------------------------------|-----------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Appearance                                             | Clear and colorless                                                   | Clear and colorless                                                                 |
| SDS-PAGE                                               | Protein band of interest represents > 95% of total staining intensity | Dominant band of ~ 70 kDa accounts for ~ 95% of total staining intensity (Figure 1) |
| Concentration by Bradford Assay <sup>1</sup>           | Report results                                                        | 364 μg per mL                                                                       |
| Final Product                                          |                                                                       |                                                                                     |
| Quantity per vial                                      | Report results                                                        | 182 μg                                                                              |
| Volume per vial                                        | Report results                                                        | 500 μL                                                                              |
| Functional Activity                                    |                                                                       |                                                                                     |
| Hemagglutination activity 0.5% chicken red blood cells | Poport regulto                                                        | Positive                                                                            |
|                                                        | Report results Report results                                         | Positive                                                                            |
| 0.5% turkey red blood cells                            | Report results                                                        | Positive                                                                            |
| Western blot analysis                                  |                                                                       |                                                                                     |
| Polyclonal anti-H7 HA <sup>2</sup>                     | Reactive                                                              | Reactive (Figure 2)                                                                 |
| Monoclonal anti-histidine tag <sup>3</sup>             | Not reactive                                                          | Not reactive (Figure 3)                                                             |
| Endotoxin Content<br>(Limulus Amoebocyte Lysate Assay) | Report results                                                        | 31.9 EU per mg                                                                      |
| Filtration                                             | 0.2 µm sterile-filtered                                               | 0.2 µm sterile-filtered                                                             |

<sup>&</sup>lt;sup>1</sup>Using BSA as a standard

**Date:** 14 JUL 2015

Signature:

**BEI Resources Authentication** 

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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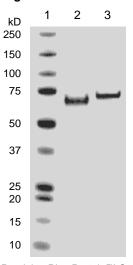
Fax: 703-365-2898

<sup>&</sup>lt;sup>2</sup>BEI Resources NR-48597, Polyclonal Anti-Influenza Virus H7 Hemagglutinin (HA), A/Anhui/1/2013 (H7N9), (antiserum, Goat) (1:10,000 dilution) <sup>3</sup>R & D Systems<sup>®</sup> (Cat. No. MAB050) (IgG1) (1:1000 dilution)



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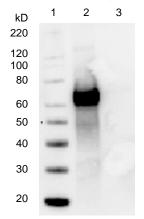
Figure 1: SDS-PAGE



Lane 1: Precision Plus Protein™ Standard

Lane 2: NR-44081, 1.0 μg Lane 3: BSA, 1.0 μg

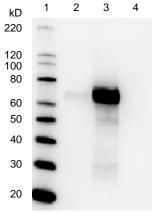
Figure 2: Western Blot with Polyclonal Anti-H7 HA



Lane 1: MagicMark™ XP Protein Standard

Lane 2: NR-44081, 1.0 µg Lane 3: BSA, 1.0 µg

Figure 3: Western Blot with Monoclonal Anti-Histidine Tag



Lane 1: MagicMark™ XP Protein Standard Lane 2: NR-44081 (Final Product), 1.0 µg

Lane 3: NR-44081 (Prior to Thrombin Treatment), 0.1 µg

Lane 4: BSA, 1.0 µg