SUPPORTING INFECTIOUS DISEASE RESEARCH

## Ricin Toxin A Subunit, from Ricinus communis

#### Catalog No. NR-2619

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

**Product Description:** Ricin toxin is a glycoprotein that can be isolated from *Ricinus communis* seeds. The A chain of ricin toxin catalytically inactivates the eukaryotic 28S ribosomal RNA subunit resulting in the inhibition of protein synthesis and death of the cell.

### Lot<sup>1</sup>: 61274531

## Manufacturing Date: 22MAR2013

TEST	SPECIFICATIONS	RESULTS
Appearance	Clear and colorless	Clear and colorless
SDS-PAGE (SYPRO Orange Densitometer Scan)	Protein bands of interest represent > 95% of total staining intensity above background	Ricin A subunit bands represent > 95% of total staining intensity above background (Figure 1) <sup>2</sup>
Mass Spectrometry	Measured value within 5% theoretical value (30336 daltons)	Peak 1 within 2.4% of theoretical value (31089 daltons) <sup>2</sup> Peak 2 within 6.4% of theoretical value (32422 daltons) <sup>2</sup>
SELDI-TOF Mass Spectrometry of Trypsin Digest	> 50% of total residues accounted for in peptides of expected mass	75% of total residues accounted for in peptides of expected mass
Concentration by Bicinchoninic Acid Protein Assay <sup>3</sup>	Report results	0.12 mg/mL
Functional Activity Western Blot (see Figure 2) <sup>4</sup> Carbonic anhydrase NR-2619	Non-reactive Reactive	Non-reactive Reactive
Cytotoxicity in Vero Cells	Report results	CD <sub>50</sub> ~100 nM <sup>5</sup> (Figure 3)
Sterility	0.22 µm filter-sterilized	0.22 µm filter-sterilized
Endotoxin Content	Report results	< 2.5 EU/mg

<sup>1</sup>Purified from NR-720 ricin holotoxin by ion-exchange chromatography

<sup>2</sup>Actual band may appear larger than predicted from the sequence due to glycosylation; protein doublet is also due to glycosylation. <sup>3</sup>Using BSA standard curve

<sup>4</sup>Completed with mouse monoclonal antibody to ricin A subunit (NR-843).

<sup>5</sup>This value is approximately 5 log units less than the CD<sub>50</sub> reported for the holotoxin.

Date: 29 MAY 2013

Signature: Dorothy C. Young

Title:

Technical Manager, BEI Authentication or designee

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# **Certificate of Analysis for NR-2619**

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Lane 1: Carbonic anhydras Lane 2: NR-2619

#### Figure 3 – Vero Cell Cytotoxicity Assay



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