Polyclonal Anti-Ricin Toxin A Chain (immune globulin G, Rabbit)

Catalog No. NR-863

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For research use only. Not for human use.

Contributor and Manufacturer:

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Product Description:

Polyclonal immune globulin G antibody specific to the A chain of ricin holotoxin[1,2] was produced by immunization of rabbits with recombinant ricin A chain and purified from serum by caprylic acid precipitation.[3]

Ricin holotoxin consists of two polypeptide chains, A and B, linked by a disulfide bond. The A chain catalytically inactivates the eukaryotic 28S ribosomal RNA subunit, resulting in the inhibition of protein synthesis and death of the cell.[4] The B chain is responsible for receptor binding and delivery of the toxin to the target cell.

The ricin A chain expressed in *R. communis* is post-translationally glycosylated as two distinct isoforms that have been designated A1 and A2.[5] When separated by SDS-PAGE, these two glycoforms appear as two distinct bands with masses of approximately 31 kDa and 32 kDa.

Material Provided:

Each vial contains approximately 0.1 mg of NR-863 in phosphate-buffered saline.

Packaging/Storage:

NR-863 was filter sterilized and packaged aseptically in cryovials. The product is provided frozen on dry ice and should be stored at -20°C or colder immediately upon arrival. Once thawed, the unused material may be stored at 4°C. Freeze-thaw cycles should be avoided.

Functional Activity:

NR-863 is specific to the A chain of ricin toxin as determined by Western blot analysis. The polyclonal immune globulin G antibody can bind both denatured and native protein, and can be labeled or radiolabeled without losing specificity. NR-863 neutralized 5 CD_{50}s of ricin holotoxin in a Vero cell neutralization assay. Applications: ELISA, Western blot, toxin neutralization assay.

Citation:

Acknowledgment for publications should read "The following reagent was obtained through the NIH Biodefense and Emerging Infections Research Resources Repository, NIAID, NIH: Polyclonal Anti-Ricin Toxin A Chain (immune globulin G, Rabbit), NR-863."

Biosafety Level: 1

Appropriate safety procedures should always be used with this material. Laboratory safety is discussed in the following publication: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, and National Institutes of Health. Biosafety in Microbiological and Biomedical Laboratories. 5th ed. Washington, DC: U.S. Government Printing Office, 2009; see www.cdc.gov/biosafety/publications/bmbl5/index.htm.

Disclaimers:

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References:

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3. Russo, C., L. Callegaro, E. Lanza, and S. Ferrone. “Re.: Purification of IgG Monoclonal Antibody by Caprylic Acid Precipitation.” J. Immunol. Methods 65 (1983): 269–271. PubMed: 6655243.
4. Endo, Y. and K. Tsurugi. “RNA N-Glycosidase Activity of Ricin A-Chain. Mechanism of Action of the Toxic Lectin Ricin on Eukaryotic Ribosomes.” J. Biol. Chem. 262 (1987): 8128–8130. PubMed: 3036799.
5. Fulton, R. J., et al. “Purification of Ricin A1, A2 and B Chains and Characterization of Their Toxicity.” J. Biol. Chem. 261 (1986): 5314-5319. PubMed: 3957927.

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