

Ricin Toxin B Subunit, from *Ricinus communis* Seeds

Catalog No. NR-2620

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For research use only. Not for human use.

Contributor and Manufacturer:

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Product Description:

Ricin toxin is a glycoprotein that can be isolated from the seeds of the castor bean plant *Ricinus communis*.¹ Structurally, ricin toxin consists of two polypeptide chains, A and B, that are linked by a disulfide bond. 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.² The ricin toxin B chain is a galactose-specific lectin that mediates the binding and delivery of the toxin to target cells.^{3,4} The sequence of the *R. communis* gene for the ricin toxin precursor protein has been reported (GenBank: X03179).⁵

NR-2620 was purified from NR-720 ricin holotoxin by ion-exchange chromatography.

Material Provided:

Each vial of NR-2620 contains 60 to 70 µg of ricin toxin B subunit suspended in 20 mM phosphate buffer (pH 7.2). The concentration, expressed as mg per mL, is shown on the Certificate of Analysis.

Packaging/Storage:

NR-2620 was packaged aseptically in plastic cryovials. The product is provided frozen on dry ice and should be stored at -20°C or colder immediately upon arrival.

Functional Activity:

NR-2620 reacts specifically with monoclonal antibody to ricin B chain (BEI Resources NR-842) as determined by Western blot analysis. **NR-2620 was tested for toxicity using an animal lethality assay. All animals treated with NR-2620 survived challenge, indicating that the protein is not lethal to mice.**

Citation:

Acknowledgment for publications should read "The following reagent was obtained through the NIH Biodefense and Emerging Infections Research Resources Repository, NIAID,

NIH: Ricin Toxin B Subunit, from *Ricinus communis* Seeds, NR-2620."

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.

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References:

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4. Olsnes, S., E. Saltvedt, and A. Pihl. "Isolation and Comparison of Galactose-binding Lectins from *Abrus precatorius* and *Ricinus communis*." J. Biol. Chem. 249 (1974): 803–810. PubMed: 4811904.
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