Monoclonal Anti-Ricin Toxin B Chain, Clone RBC 11 (produced *in vitro*)

Catalog No. NR-9572

For research use only. Not for human use.

Contributor:
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Manufacturer:
NIH Biodefense and Emerging Infections Research Resources Repository, NIAID, NIH

Product Description:
Antibody Class: IgG2bκ
Mouse monoclonal antibody prepared against the B chain[1] of the ricin holotoxin[2,3] from *Ricinus communis (R. communis)* was purified from clone RBC 11 hybridoma supernatant by protein G affinity chromatography. The B cell hybridoma was generated by the fusion of Sp2/0 mouse myeloma cells with splenocytes from BALB/c mice immunized with purified ricin toxin B chain.[4]

Ricin is a cytotoxic protein isolated from the beans of the castor plant *R. communis*. The 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.[5] The ricin toxin B chain is a galactose-specific lectin that mediates the binding and delivery of the toxin to target cells.[6,7] The sequence of the *R. communis* gene for the ricin toxin precursor protein has been reported (GenBank: X03179).[3]

Material Provided:
Each vial of NR-9572 contains approximately 100 µL of purified monoclonal antibody in PBS. The concentration, expressed as mg per mL, is shown on the Certificate of Analysis.

Packaging/Storage:
NR-9572 was packaged aseptically in screw-capped plastic cryovials and is provided frozen on dry ice. NR-9572 should be stored at -20°C or colder immediately upon arrival. Freeze-thaw cycles should be avoided.

Functional Activity:
The clone RBC 11 antibody is reported to be reactive in ELISA and western blot assays, and to inhibit ricin cytotoxicity and binding to cells.[4] The antibody is also functional in immunocytochemistry and immunoprecipitation assays and can be used to detect ricin holotoxin in an antigen capture ELISA when paired with anti-ricin toxin A chain clone RAC 18).[8] The RBC 11 monoclonal antibody failed to protect mice from challenge with ricin toxin.[4]

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, 2007; see www.cdc.gov/od/ohs/biosfty/bmbl5/bmbl5toc.htm.

Citation:
Acknowledgment for publications should read "The following reagent was obtained through the NIH Biodefense and Emerging Infections Research Resources Repository, NIAID, NIH: Monoclonal Anti-Ricin Toxin B Chain, Clone RBC 11 (produced *in vitro*), NR-9572."

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