

Ricin B (rcL-17): sc-27463

BACKGROUND

Ricin, a type II ribosomal inactivating protein, inhibits protein biosynthesis by its RNA N-glycosidase activity. Ricin toxin, derived from the castor bean *Ricinus communis*, is a prototypic A-B toxin in which the B chain binds to the target cell, and the A chain (RTA) mediates the toxic activity. Ricin B chain (RTB) is a lectin that is responsible for cell agglutination and binds to β -D-galactopyranoside moieties found at the cell surface (e.g., on glycoproteins), allowing the A chain to enter the cell. In turn, the A chain functions enzymatically as an RNA N-glycosidase that depurinates adenine 4324 in the 28S rRNA of the 60S ribosomal subunit. The crystal structure of ricin has been defined.

REFERENCES

- Sharma, S., et al. 1999. Comparative studies on kinetics of inhibition of protein synthesis in intact cells by ricin and a conjugate of Ricin B-chain with momordin. *Mol. Cell. Biochem.* 200: 133-141.
- Sandvig K., et al. 2000. Entry of ricin and Shigatoxin into cells: molecular mechanisms and medical perspectives. *EMBO J.* 19: 5943-5950.
- Candy, L., et al. 2001. The Gal/GalNAc-specific lectin from the plant pathogenic basidiomycete *Rhizoctonia solani* is a member of the Ricin B family. *Biochem. Biophys. Res. Commun.* 282: 655-661.
- Doan, L.G. 2004. Ricin: mechanism of toxicity, clinical manifestations, and vaccine development. A review. *J. Toxicol. Clin. Toxicol.* 42: 201-208.
- Maddaloni, M., et al. 2004. Immunological characteristics associated with the protective efficacy of antibodies to ricin. *J. Immunol.* 172: 6221-6228.
- Wu, Y.H., et al. 2004. Ricin triggers apoptotic morphological changes through caspase-3 cleavage of BAT3. *J. Biol. Chem.* 279:19264-19275.
- SWISS-PROT/TrEMBL (P02879). World Wide Web URL: <http://www.expasy.ch/sprot/sprot-top.html>.
- McGuinness, CR. and Mantis, NJ. 2006. Characterization of a novel high-affinity monoclonal immunoglobulin G antibody against the Ricin B subunit. *Infect. Immun.* 74: 3463-3470.

SOURCE

Ricin B (rcL-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of the ricin precursor of *Ricinus communis* origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-27463 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

Ricin B (rcL-17) is recommended for detection of Ricin B chain of *Ricinus communis* origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Molecular Weight of Ricin B: 32 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.



Try **Ricin B (RB999): sc-52197**, our highly recommended monoclonal alternative to Ricin B (rcL-17).