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Produktinformation

- Forschungsprodukte & Biochemikalien
- Zellkultur & Verbrauchsmaterial
- Diagnostik & molekulare Diagnostik
- Laborgeräte & Service

Weitere Information auf den folgenden Seiten!
See the following pages for more information!

Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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Anti-Ricin [A9] Standard Size Ab03296-23.159

Isotype and Format: Rabbit IgG-Fc fusion
Clone Number: A9
Alternative Name(s) of Target: rRNA N-glycosidase; Ricin A chain (EC:3.2.2.22); Ricin B chain
UniProt Accession Number of Target Protein: P02879
Published Application(s): crystallography, neutralizing, ELISA
Published Species Reactivity: Ricinus communis
Immunogen: The original antibody was generated by immunizing two alpacas with a ricin toxoid. A VHH phage-displayed library was constructed and the antibody was identified in a panning directly on plate bound RTA.
Specificity: The antibody recognizes an epitope on RTA that straddles clusters I and III. In particular, the antibody contacts the core secondary structural elements of cluster I, namely β-strand h, α-helix B and α-helix D, as well as a core element of cluster III, namely α-helix C. Ricin is a member of the type II ribosome-inactivating protein (RIP) family of plant toxins. It is a 65 kDa glycoprotein consisting of two subunits, RTA and RTB, joined by a single disulfide bond.
Application Notes: The VHH antibody was specific for RTA as confirmed by competition ELISA. The crystal structure of ricin catalytic subunit in complex with the VHH antibody was determined. The antibody had relatively weak toxin-neutralizing activity (IC50 ~750 nM), as shown by Vero cell cytotoxicity assays. The antibody binding affinity (KD) for ricin holotoxin (0.08 nM). The binding affinity, and, toxin-neutralizing activity of the antibody was mediated by CDR2 containing five consecutive Gly residues that interact with α-helix B. In order to prove this, a variant of the antibody lacking Gly AC151residue 59 (A9Δ59) was generated. Binding studies and toxinneutralizing assays confirmed that the removal of a single glycine residue from A9's CDR2 significantly reduced binding affinity for RTA (~10-fold weaker; 1.76 nM versus 0.102 nM) and eliminated toxin-neutralizing activity (Rudolph et al., 2018; PMID: 30265352).
Antibody First Published in: Rudolph et al. Contribution of an unusual CDR2 element of a single domain antibody in ricin toxin binding affinity and neutralizing activity. Protein Eng Des Sel. 2018 Jul 1;31(7-8):277-287. PMID:30265352
Note on publication: The paper describes the generation and characterization of the antibody. The structure of the antibody in complex with the ricin toxin's enzymatic subunit (RTA) is reported.

Product Form

Size:

200 µg Purified antibody.
Purification: Protein A affinity purified
Supplied In: PBS with 0.02% Proclin 300.
Storage Recommendation: Store at 4ºC for up to 3 months. For longer storage, aliquot and store at -20ºC.
Concentration: 1 mg/ml.

Important note – This product is for research use only. It is not intended for use in therapeutic or diagnostic procedures for humans or animals.