PRODUCT SPECIFICATION

STATENS SERUM INSTITUT

POL 007 Anti Ricin Chain A

Rabbit polyclonal antibody

Article No.	101685
Product Name	POL 007 Anti Ricin Chain A
Description	**Preparation:** Sterile-filtered (0.22 µm pore size). **Content:** ~ 10 mg/mL IgG **Solvent:** Serum with 15 mM NaN_3 **Storage:** 2-8 °C
Antigen	Ricin chain A (RTA) is a ribosome inactivating enzyme with a molecular weight of 32 kDa. RTA is normally linked by a disulfide bond to the galactose/N-acetylgalactosamine-binding lectin (34 kDa), also called the B chain or RTB. Together with RTB, RTA constitutes the heterodimeric cytotoxin Ricin (RCA 60) from *Ricinus communis*. This ricin, which is a type 2 RIP (ribosome-inactivating protein) is among the most potent cytotoxins in nature.
Immunogen	Purified intact A-chain from RCA 60.
Specificity	The antibody specificity was tested by western blotting on denatured RCA 60. POL 007 reacted with only one band, the lower Mr-band, i.e. the RTA. Goat antibodies raised against intact RCA 60 reacted with 2 bands on the same western blot.
Reactivity	POL 007 can be used for detection of RTA in ELISA and western blotting, and electron microscopy (1-2). POL 007 can neutralize lethal doses of Ricin in mice (1). POL 007 has been used detection of RTA in a nanoparticle-based bio-barcode assay and in a nanoparticle probe-based assay (3-4). POL 007 has also been used in biophysical analysis of toxin modulation (5)..
Immunization	Rabbits were immunized s.c. with a vaccine consisting of immunogen, Freund's complete adjuvant and $Al(OH)_3$ initially and then likewise but with Freund's incomplete adjuvant in subsequent immunizations.

Application

Method	Usability	References
Electron Microscopy-	Yes	1
ELISA	Yes	2
Immunoblotting	Yes	1
Immunofluorescence	nd.	
Neutralization	Yes	1
Nanoparticle-based detection assay	Yes	3-4

References

1) **Beyer N.H., Kogutowska E., Hansen J.J., Illigen K.E.E., Heegaard N.H.H**. A mouse model for ricin poisoning and for evaluating protective effects of antiricin antibodies. Clin.Toxicol. 2009 Mar; 47(3), 219-225

2) **Wang W, Hale C, Goulding D, Haslam SM, Tissot B, Lindsay C, Michell S, Titball R, Yu J, Toribio AL, Rossi R, Dell A, Bradley A, Dougan G.** Mannosidase 2, alpha 1 deficiency is associated with ricin resistance in embryonic stem (ES) cells.PLoS One. 2011;6(8):e22993. doi: 10.1371/journal.pone.0022993. Epub 2011 Aug 23.

3) **Yin HQ, Jia MX, Yang S, Wang SQ, Zhang JG.** A nanoparticle-based bio-barcode assay for ultrasensitive detection of ricin toxin. Toxicon. 2012 Jan;59(1):12-6. doi: 10.1016/j.toxicon.2011.10.003. Epub 2011 Oct 12.

4) **Yin HQ, Jia MX, Shi LJ, Liu J, Wang R, Lv MM, Ma YY, Zhao X, Zhang JG.** Evaluation of a novel ultra-sensitive nanoparticle probe-based assay for ricin detection. J Immunotoxicol. 2014 Jul-Sep;11(3):291-5. doi: 10.3109/1547691X.2013.847994. Epub 2013 Oct 29.

5) **Ray S, Taylor M, Burlingame M, Tatulian SA, Teter K.** Modulation of toxin stability by 4-phenylbutyric acid and negatively charged phospholipids. PLoS One. 2011;6(8):e23692. doi: 10.1371/journal.pone.0023692. Epub 2011 Aug 22..

Conditions

For research use only. Not for use in diagnostic procedures. Not for therapeutic use or applications.

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