PRODUCT SPECIFICATION

STATENS SERUM INSTITUT

HYB 123-18 Anti Diphtheria toxin (DT)

Mouse monoclonal antibody

Article No.	66047 (0.2 mL), 101053 (1.0 mL)
Product Name	HYB 123-18 Anti Diphtheria toxin (DT)
Clone	7C4
Subclass	IgG1 / Kappa
Description	**Preparation:** Protein-A purified **Concentration:** 1 mg/mL ± 10%, based on A_{280}. See Certificate of Analysis for details. **Solvent:** PBS, pH 7.2 – 7.4 **Storage:** -18 °C or colder
Antigen	Diphtheria toxin (DT) is secreted by certain strains of *Corynebacterium diphtheriae* and catalyzes the ADP-ribosylation of eukaryotic aminoacyl-transferase II (EF-2) using NAD as a substrate (1). This reaction forms the basis for its toxicity towards eukaryotic organisms (2). Diphtheria toxin is synthesized and excreted as a proenzyme, composed of a single polypeptide chain having a molecular weight of approximately 63 kDa (3). Two covalent alterations in structure are necessary for expression of its enzymatic activity. First, mild proteolysis results in the formation of "nicked toxin", which is enzymatically inactive and consists of two major fragments, A and B, linked by a disulfide bond. Reduction of the nicked toxin with thiols releases the N-terminal A fragment (~24 kDa) which is enzymatically active. The C-terminal B fragment (~39 kDa) has no apparent enzymatic activity, but is required for toxicity. Evidence suggests that the B fragment is responsible for recognizing and binding the toxin to cell surface receptors (4).
Immunogen	Diphtheria toxoid (formaldehyde inactivated Diphtheria toxin).
Specificity	HYB 123-18 reacts primarily with Diphtheria toxin with a low cross reactivity with Diphtheria toxoid.
Epitope Specificity	HYB 123-18 reacts with a different epitope compared to HYB 123-09 and HYB 123-16.
Reactivity	HYB 123-18 reacts well in ELISA with coated Diphtheria toxin. When used in WB HYB 123-18 detects a band at approximately 63 kDa corresponding to the proenzyme.
Culture Medium	Dulbecco's modified Eagle's medium with 10 % FCS.
Fusion Partner	X63-Ag8.653.
Immunization	Female CF1xBalb/c F1 hybrid mice were immunized i.p. with immunogen.

Application

Method	Usability
ELISA	Yes
Immunoblotting	Yes
Immunofluorescence	nd.

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References

1) **Honjo, J., Nishizuka, Y., Hayaishi, O. and Kato, I**. (1968) J. Biol. Chem. 243, 3553-3555.

2) **Gill, D.M., Pappenheimer, Jr., A.M. and Baseman, J.B**. (1969) Cold Spring Harbor Symp. Quant. Biol. 34, 595-602.

3) **Collier, R.J. and Kandel, J**. (1971) J. Biol. Chem. 246, 1496-1503.

4) **Ittelson, T.R. and Gill, D.M**. (1973) Nature 242, 330-332.

Conditions

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