

PRODUCT SPECIFICATION

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HYB 123-05 Anti Corynebacterium Diphtheria toxin (DT)

Mouse monoclonal antibody

OVERVIEW	Article No.	100876 (0.2 mL), 100877(1.0 mL)	
	Product Name	HYB 123-05 Anti Corynebacterium Diphtheria toxin (DT)	
	Clone ID	17.6	
	Subclass	IgG1/ Kappa	
	Specificity	HYB 123-05 reacts with diphtheria toxin and toxoid.	
	Species Reactivity	<i>Corynebacterium Diphtheria</i> .	
	Epitope Specificity	Not determined.	
	Immunogen	Diphtheria toxoid (purified and formaldehyde treated diphtheria toxin from a culture of <i>Corynebacterium diphtheria</i> subsp. <i>intermedius</i> Park-Williams no. 8).	
	Fusion Partner	X63-Ag8.653.	
	Culture Medium	Dulbecco's modified Eagle's medium with 10 % fetal calf serum.	
TESTED APPLICATION	Method	Usability	References
	Enzyme linked immunosorbent assay (ELISA)	YES	1
	Western Blot (WB)	YES	
PRODUCT SPECIFIC INFORMATION	HYB 123-05 reacts strongly in ELISA with diphtheria toxoid coated directly onto the microtiter well. HYB 123-05 also detects diphtheria toxin and toxoid in a sandwich ELISA using a polyclonal antitoxin as capture antibody (1). In western of SDS separated reduced and non-reduced diphtheria toxoid, HYB 123-05 reacts with a broad band between 50 and 75 kDa corresponding to the SDS- and reduction-resistant cross-linked proenzyme. Bands with higher molecular weight corresponding to cross-linked toxoid multimers can also be detected.		
PROPERTIES	Conjugation:	Unconjugated	
	Form	Liquid	
	Preparation:	Protein A	
	Concentration:	1 mg/mL $\pm$ 10%, based on A ₂₈₀ . See Certificate of Analysis for details.	
	Solvent:	PBS, pH 7.2 – 7.4	
	Storage information:	Store at $\leq$ -18 °C.	

SSI Antibodies

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TARGET	Diphtheria toxin (DT) is secreted by certain strains of <i>Corynebacterium diphtheria</i> and catalyzes the ADP-ribosylation of eukaryotic aminoacyl-transferase II (EF-2) using NAD as a substrate (2). This reaction forms the basis for its toxicity towards eukaryotic organisms (3). Diphtheria toxin is synthesized and excreted as a proenzyme. It is composed of a single polypeptide chain having a molecular weight of approximately 63 kDa (4). 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 (5).
REFERENCES	1. Nielsen P.B., Koch C., Friis H., Heron I., Prag J. and Schmidt J. (1987) J. Clin. Microbiol. 25 (7), 1280-1284 2. Honjo, J., Nishizuka, Y., Hayaishi, O. and Kato, I. (1968) J. Biol. Chem. 243, 3553-3555. 3. Gill, D.M., Pappenheimer, Jr., A.M. and Baseman, J.B. (1969) Cold Spring Harbor Symp. Quant. Biol. 34, 595-602. 4. Collier, R.J. and Kandel, J. (1971) J. Biol. Chem. 246, 1496-1503. 5. Ittelson, T.R. and Gill, D.M. (1973) Nature 242, 330-332.

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Conditions

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

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