Datasheet for ABIN2452169

Diphtheria Toxin Protein

1 Image | 3 Publications

Go to Product page

Overview

Quantity:	200 µg
Target:	Diphtheria Toxin
Origin:	Corynebacterium diphtheriae
Source:	Corynebacterium diphtheriae
Protein Type:	Native
Biological Activity:	Active
Application:	Blocking Antibody (Inhibition), Functional Studies (Func), Negative Control (NC), SDS-PAGE (SDS), ELISA, Western Blotting (WB)

Product Details

Purity:	> 95 % purity by SDS-PAGE (see below, SDS-PAGE without mercaptoethanol)

Target Details

Target:	Diphtheria Toxin
Abstract:	Diphtheria Toxin Products
Background:	This Diphtheria toxin was highly purified from the growth media of Corynebacterium diphtheriae strain PW8 as mostly unnicked form. Diphtheria toxin is a single polypeptide chain of 535 amino acids (58 kD) and nicked by cellular protease like furin to give fragments A (N-terminal, 21 kDa) and B (C-terminal, 37 kDa) which are linked by disulfide bridges. Binding to the cell surface of frgment B allows fragment A to penetrate the host cell. Fragment A catalyzes the ADP-ribosylation of eucaryotic elongation factor-2 (eEF2) by using NAD as a substrate, thus inactivating eEF2 and inhibiting protein synthesis.

Target Details

UniProt:	Q5PY51

Application Details

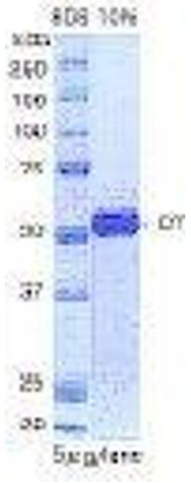
Application Notes:	1) Inhibition of protein synthesis in eucaryotic cells 2) Negative selection agent for ES cells in construction of transgenic mouse 3) Putative drug for treatment of malignant tumors such as leukemia 4) Antigen for Western blotting and ELISA 5) As a marker of Diphtheria toxin in SDS-PAGE
Comment:	Activity test: Addition of 20 ~30 pg/mL of Diphtheria toxin in growth medium caused 50 % lethality after 43 h in Vero cells. Nicking of Diphtheria toxin by trypsin by trypsin and reduction by dithiothreitol further increase the activity
Restrictions:	For Research Use only

Handling

Format:	Liquid
Concentration:	5 mg/mL
Buffer:	20 mM Tris-HCl (pH 7.2), 150 mM NaCl
Storage:	-80 °C

Publications

Product cited in:	Yagi, Nada, Watanabe, Tamemoto, Kohmura, Ikawa, Aizawa: "A novel negative selection for homologous recombinants using diphtheria toxin A fragment gene." in: **Analytical biochemistry** , Vol. 214, Issue 1, pp. 77-86, (1994) (PubMed). Pappenheimer: "Diphtheria toxin." in: **Annual review of biochemistry**, Vol. 46, pp. 69-94, (1977) (PubMed). Uchida, Pappenheimer, Harper: "Diphtheria toxin and related proteins. 3. Reconstitution of hybrid "diphtheria toxin" from nontoxic mutant proteins." in: **The Journal of biological chemistry**, Vol. 248, Issue 11, pp. 3851-4, (1973) (PubMed).



SDS-PAGE

Image 1.