Diphtheria Toxin Mutant CRM197, functional

Product code	01-515
Size	200μg
Storage	-80℃. Avoid freeze-thaw cycles.
Product Description	CRM197 was highly purified from growth media of the Corynebacterium diphtheriae mutant as mostly unnicked form.
Concentration	1.0 mg/ml
Buffer	20 mM Tris-HCl (pH 7.2), 150 mM NaCl, 10% Glycerol
Purity	More than 95% purity (see below; SDS-PAGE without 2-mercaptoethanol)
Biochemical Activity	Nontoxic mutant of Diphtheria toxin. While CRM197 shows no enzymatic activity, it is immunologically indistinguishable from wild-type Diphtheria toxin.
Application	1. CRM197 retains activity to bind the receptor, HB-EGF (Heparin-Binding EGF-like Growth Factor) and inhibits the growth-stimulating activity of HB-EGF (Ref.1) 2. Putative drug for treatment of malignant tumors such as ovarian tumor, which secretes higher levels of HB-EGF (Ref 2). 3. Western blotting 4. SDS-PAGE 5. ELISA
Special notes	For research use only, not for human use.
Background	CRM197 (Cross-Reacting Material 197) is a nontoxic mutant of Diphtheria toxin. CRM197, like wild-type Diphtheria toxin, is composed of 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 fragment B allows fragment A to penetrate the host cell. Fragment A of wild-type toxin catalyzes the ADP-ribosylation of eucaryotic elongation factor-2 (eEF2) by using NAD as a substrate, thus inactivating eEF2 and inhibiting protein synthesis. However, CRM197 has an alteration of 52nd Gly to Glu and has neither ADP ribosylation activity nor toxicity to cells. While CRM197 shows no enzymatic activity, it is immunologically indistinguishable from wild-type Diphteria toxin. CRM197 competitively inhibits binding of HB-EGF to HB-EGF receptor which is also Diphtheria toxin receptor.
Data Link	UniProtKB Q5PY51

Please note: All products are FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES. NOT FOR MILITARY USE.

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Data Images: 01-515 Diphtheria Toxin Mutant CRM197, functional

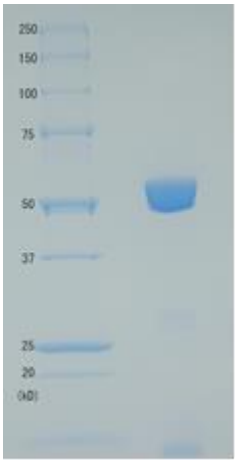

Fig.1. SDS-PAGE of Diphtheria Toxin Mutant CRM197

References: This product was used in following Ref.

1. Mitamura T. et al. "Structure-function analysis of thediphtheria toxin receptor toxin binding site by site-directed mutagenesis." *J. Biol. Chem.***272**: 27084-27090 (1997) PMID: 9341148
2. Miyamoto S. et al. "Heparin-binding EGF-like growth factor is a promising target for ovarian cancer therapy." *Cancer Res.* **64**: 5720-5727 (2004) PMID: 15313912

Related product:

01-516 Diphtheria Toxin Mutant CRM197 in PBS-, functional

01-517 Diphtheria Toxin, functional

64-010 Anti-Diphtheria Toxin antibody, rabbit serum

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