

Diphtheria Toxin Mutant CRM197, functional

01-515 200 µg

Storage: Ship with dry-ice and store at -80°C.

Applications:

- 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

Form: 1.0 mg/ml in 20 mM Tris-HCl (pH 7.2), 150 mM NaCl

Purity: More than 95% purity (see below; SDS-PAGE without 2-mercaptoethanol)

Background: CRM197 (Cross-Reacting Material 197) is a nontoxic mutant of Diphtheria toxin. CRM197 was highly purified from growth media of the *Corynebacterium diphtheriae* mutant as mostly unnicked form. 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 Diphtheria toxin. CRM197 competitively inhibits binding of HB-EGF to HB-EGF receptor which is also Diphtheria toxin receptor.

Data Link: Diphtheria toxin, Swiss-Prot [Q5PY51](#)

References: This product was used in following Ref.

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](#)

***For research use only, not for human use.**

***MSDS (Material Safety Data Sheet) is not provided, because this product is not hazardous due to the mutation.**

Related product: [01-517 Diphtheria Toxin, functional](#)

[64-010 Anti-Diphtheria Toxin antibody, rabbit antiserum](#)

