

## Diphtheria Toxin Mutant CRM197, functional

01-515      200 µg

**Storage:** Store at -80°C. Avoid freeze-thaw cycles.

**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, 10% Glycerol

**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 52<sup>nd</sup> 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](#)

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

