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## Product Data Sheet

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Product Name: Diphtheria toxin (CRM197)

Cat. No.: GC60140

### Chemical Properties

Cas. No. 92092-36-9

Formula M.Wt

Solubility Storage

General tips For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.

Structure

### Background

Diphtheria toxin CRM197 is a nontoxic variant of diphtheria toxin with a single mutation (Glycine to Glutamate substitution at position 52) that eliminates its toxicity. CRM197 is widely used as a carrier protein in conjugate vaccines[1].

Diphtheria toxin CRM197 is an enzymatically inactive and nontoxic form of diphtheria toxin that contains a single amino acid substitution (G52E). Being naturally nontoxic, CRM197 is an ideal carrier protein for conjugate vaccines against encapsulated bacteria and is currently used to vaccinate children globally against Haemophilus influenzae, pneumococcus, and meningococcus[1][2]. Diphtheria toxin, a single polypeptide secreted by lysogenic strains of Corynebacterium diphtheria, causes the disease diphtheria in humans by gaining entry into the cytoplasm of cells and inhibiting protein synthesis[3][4].

[1]. Ravi P N Mishra, et al. Structural and Immunological Characterization of E. coli Derived Recombinant CRM 197 Protein Used as Carrier in Conjugate Vaccines. Biosci Rep. 2018 Sep 25;38(5):BSR20180238. [2]. Enrico Malito, et al. Structural Basis for Lack of Toxicity of the Diphtheria Toxin Mutant CRM197. Proc Natl Acad Sci U S A. 2012 Apr 3;109(14):5229-34. [3]. C E Bell, et al. Crystal Structure of Diphtheria Toxin Bound to Nicotinamide Adenine Dinucleotide. Biochemistry. 1996 Jan 30;35(4):1137-49. [4]. Ranjit

**Caution: Product has not been fully validated for medical applications. For research use only.**

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Sah, et al. Diphtheria. N Engl J Med. 2019 Sep 26;381(13):1267.

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