

Dermonecrotic Toxin from *Bordetella bronchiseptica*, functional

01-505 10 µg

Storage: Ship and store at 4°C.

Applications:

- 1) For the studies of the signaling pathways mediated by small GTP-binding proteins.
- 2) Antigen to be used for detection of infection of *Bordetella* by immunological method.

Form: 0.53 mg/ml of DNT in 50 mM sodium phosphate buffer (pH 7.2), 1 M urea, 0.3 M sodium sulfate, filter-sterilized.

Purity: More than 95 % purity by SDS-PAGE (CBB staining)

Activity: DNT at 5 ng/ml induces ballooning morphological change in cultured mouse osteoblastic cell line MC3T3-E1.

Background: Dermonecrotic toxin (DNT) is a common toxin produced by pathogenic bacteria belonging to the genus *Bordetella*, such as *B. pertussis*, *B. parapertussis*, and *B. bronchiseptica*. This toxin activates small GTP-binding proteins such as Rho, Rac and Cdc42 through deamidation or polyamination for downstream signaling pathways.

DNT was purified from *B. bronchiseptica* strain S798 by propriety chromatography and differential precipitation method.

Data Link UniProtKB/TrEMBL [Q7WGE1](#) (Q7WGE1_BORBR)

References: The equivalent DNT was used in Ref. 1 & 2.

1. Masuda M *et.al* "Activation of rho through a cross-link with polyamines catalyzed by Bordetella dermonecrotizing toxin." *EMBO J* **19**:521-530 (2000) PMID: [10675321](#)
2. Horiguchi Y *et.al* "Simplified procedure for purification of Bordetella bronchiseptica dermonecrotic toxin." *FEMS Microbiol Lett* **54**:39-43 (1990) PMID: [2323545](#)

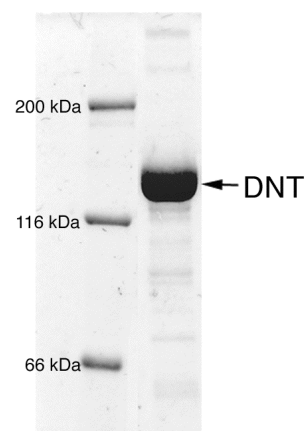


Fig1. SDS polyacrylamide gel electrophoresis of Dermonecrotic toxin.

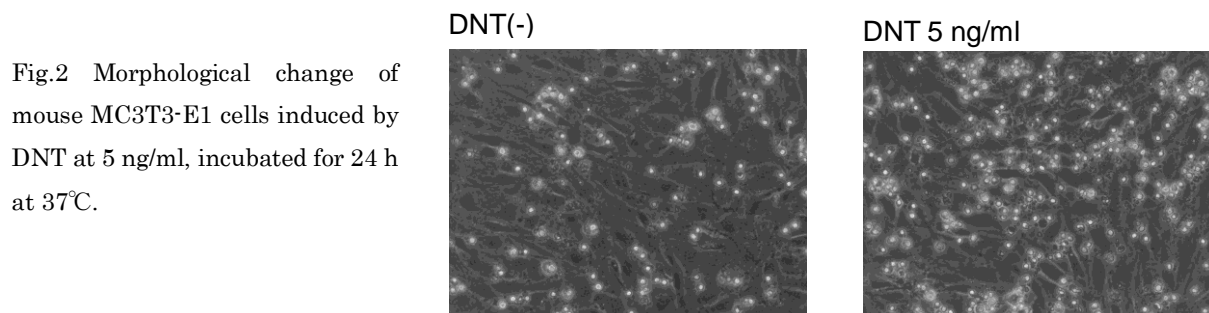


Fig.2 Morphological change of mouse MC3T3-E1 cells induced by DNT at 5 ng/ml, incubated for 24 h at 37°C.

***This product is only for research use, not for human use.**

MSDS (Material Safety Data Sheet) is in the next page.

Material Safety Data Sheet

Dermonecrotic Toxin

Harzardous Ingradient

Dermonecrotic toxin highly purified from the cells of *B. bronchiseptica* strain S798 at 100~1,000 µg/ml in 50 mM sodium phosphate buffer (pH 7.2), 1 M urea, 0.3 M sodium sulfate, filter-sterilized. The toxin concentrations depend on lot.

Health Hazard Data

The LD₅₀ of dermonecrotic in mice is 6.1 ng/mouse by intraperitoneal injection. There is no data about the toxicity in human.

Emergency Procedure

If the toxin is accidentally swallowed, induce vomiting.

If skin pricking occurs accidentally, bleed and perform vigorous flushing of the area with large amounts of water. If injection occurs, seek a physician's advice immediately.

Handling

It should be handled carefully by persons with expertise in knowledge and techniques for the safe handling of bacterial toxins. Avoid mouth pipetting. Wear protective gloves on handling the toxin. Avoid contact with open wounds. Wash thoroughly any area of the body that makes contact with the toxin.

Inactivation

The toxin can be inactivated by boiling for 30 min.