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Diphtheria Toxin and Engineered Receptor: Used to shut down specific immune cells

Background:

Immunologists are using diphtheria toxin (DT) in studies to sort out the function of various immune cells. Diphtheria toxin is a potent inhibitor of protein synthesis and will kill about any cell to which it gains entry. Diphtheria toxin receptor (DTR), either simian or human, is genetically attached to specific types of immune cells in genetically engineered mouse strains. An injection of DT has relatively minor effects on normal mice and is used to selectively and transiently deplete the genetically modified population of cells. Use of DT in this way allows the normal development of the immune system followed by the selective elimination of specific cells. These studies allow conclusions about the function of the modified cells in various processes. List Labs' Product #150 Diphtheria toxin from *Corynebacterium diphtheriae* is ideal for these studies.

Target customers have interest in:

- Basic research in the area of immunology

List Biological Laboratories provides:

- Purified *C. diphtheria* toxin, produced by the native strain (Product No. 150)
- Purified CRM197, native inactivated mutant, produced by the native strain (Product No. 149)
- Diphtheria toxoid, produced by inactivation of native toxin (Product No. 151)

Reference for the use of diphtheria toxin in shutting down portions of the immune system:

Jung S, Unutmaz D, Wong P, *et al* (2002) In vivo depletion of CD11c⁺dendritic cells abrogates priming of CD8⁺T cells by exogenous cell-associated antigens. *Immunity* 17: 211–220.