SANTA CRUZ BIOTECHNOLOGY, INC.

Choleragenoid (7901): sc-57682



BACKGROUND

Cholera toxin is a heterohexameric AB5 enterotoxin released by *Vibrio cholera* that causes a profuse amount of secretory diarrhea in susceptible hosts. The holotoxin consists of a pentameric ring of B subunits whose central pore is occupied by the A subunit. The B subunit of cholera toxin, also referred to as Choleragenoid or CtxB, binds to a GM1-ganglioside receptor, an ubiquitous glycolipid cell surface receptor, and directs the enzymatic A subunit to its target by binding the GM1 gangliosides exposed on luminal surface of intestinal epithelial cells to initiate toxin action. The A subunit activates the adenylate cyclase enzyme in the cells of the intestinal mucosa leading to increased levels of intracellular cAMP, thereby causing water to flood and burst the cell.

REFERENCES

- Rivero-Melián, C., et al. 1991. Choleragenoid horseradish peroxidase used for studying projections of some hindlimb cutaneous nerves and plantar foot afferents to the dorsal horn and Clarkes column in the rat. Exp. Brain Res. 84: 125-132.
- Robertson, B., et al. 1991. Populations of rat spinal primary afferent neurons with Choleragenoid binding compared with those labelled by markers for neurofilament and carbohydrate groups: a quantitative immunocytochemical study. J. Neurocytol. 20: 387-395.
- Rivero-Melián, C. 1993. Simultaneous demonstration of central projections of different peripheral nerves by anti-Choleragenoid immunoglobulin markers. Neuroreport 4: 743-746.
- Rivero-Melián, C., et al. 1993. Demonstration of transganglionically transported Choleragenoid in rat spinal cord by immunofluorescence cytochemistry. Neurosci. Lett. 145: 114-117.
- Zhang, R.G., et al. 1995. The 2.4 A crystal structure of cholera toxin B subunit pentamer: Choleragenoid. J. Mol. Biol. 251: 550-562.
- Rivero-Melián, C. 1996. Organization of hindlimb nerve projections to the rat spinal cord: a Choleragenoid horseradish peroxidase study. J. Comp. Neurol. 364: 651-663.
- Roche, A.K., et al. 1998. Central projections of nerves innervating the using wheat germ agglutinin-horseradish peroxidase or Choleragenoidhorseradish peroxidase. J. Comp. Neurol. 393: 16-24.
- 8. Wang, H.F., et al. 1998. Retrograde and transganglionic transport of horseradish peroxidase-conjugated cholera toxin B subunit, wheatgerm agglutinin and isolectin B4 from *Griffonia simplicifolia* I in primary afferent neurons innervating the rat urinary bladder. Neuroscience 87: 275-288.
- Sántha, P., et al. 2003. Transganglionic transport of Choleragenoid by capsaicin-sensitive C-fibre afferents to the substantia gelatinosa of the spinal dorsal horn after peripheral nerve section. Neuroscience 116: 621-627.

SOURCE

Choleragenoid (7901) is a mouse monoclonal antibody raised against cells expressing Choleragenoid of *Vibrio cholerae* origin.

PRODUCT

Each vial contains 100 $\mu g~lgG_1$ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Choleragenoid (7901) is recommended for detection of Choleragenoid of Vibrio cholerae origin by solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Molecular Weight of Choleragenoid: 16 kDa.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.