



Verotoxin IIA (7584): sc-65471

BACKGROUND

Verotoxin I and Verotoxin II, cytotoxic proteins that are also known as Shiga-like toxins, are Shiga toxins produced by *Escherichia coli* that are capable of killing Vero cells in culture. Verotoxins require highly specific receptors on the cell surface in order to attach to and enter the cell. Verotoxins are multisubunit proteins composed of one molecule of the A subunit, which is responsible for the toxic action of the protein, and five molecules of the B subunit, which is responsible for binding to a specific cell type. The toxin acts on vascular endothelial cells. The B subunits bind to Gb3 on the cell membrane and the complex enters the cell. Once inside the cell, the A subunit inactivates the ribosomes of the cell. Symptoms of Verotoxin, which occur within a few hours after infection, include severe diarrhea, abdominal pain, vomiting and bloody urine.

REFERENCES

1. Kavi, J., Chant, I., Maris, M. and Rose, P.E. 1987. Cytopathic effect of Verotoxin on endothelial cells. *Lancet* 2: 1035.
2. Morigi, M., Micheletti, G., Figliuzzi, M., Imberti, B., Karmali, M.A., Remuzzi, A., Remuzzi, G. and Zoja, C. 1996. Verotoxin I promotes leukocyte adhesion to cultured endothelial cells under physiologic flow conditions. *Blood* 86: 4553-4558.
3. Waddell, T.E., Coomber, B.L. and Gyles, C.L. 1998. Localization of potential binding sites for the edema disease Verotoxin (VT2e) in pigs. *Can. J. Vet. Res.* 62: 81-86.
4. Picking, W.D., McCann, J.A., Nutikka, A. and Lingwood, C.A. 1999. Localization of the binding site for modified Gb3 on Verotoxin I using fluorescence analysis. *Biochemistry* 38: 7177-7184.
5. Wolski, V.M., Soltyk, A.M. and Brunton, J.L. 2001. Mouse toxicity and cytokine release by Verotoxin IB subunit mutants. *Infect. Immun.* 69: 579-583.
6. Mylvaganam, M., Hansen, H.C., Binnington, B., Magnusson, G., Nyholm, P.G. and Lingwood, C.A. 2002. Interaction of the Verotoxin IB subunit with soluble aminodeoxy analogues of globotriaosyl ceramides. *Biochem. J.* 368: 769-776.
7. Soltyk, A.M., MacKenzie, C.R., Wolski, V.M., Hiram, T., Kitov, P.I., Bundle, D.R. and Brunton, J.L. 2002. A mutational analysis of the globotriaosylceramide-binding sites of Verotoxin VT I. *J. Biol. Chem.* 277: 5351-5359.
8. Hoey, D.E., Sharp, L., Currie, C., Lingwood, C.A., Gally, D.L. and Smith, D.G. 2003. Verotoxin I binding to intestinal crypt epithelial cells results in localization to lysosomes and abrogation of toxicity. *Cell. Microbiol.* 5: 85-97.
9. Maloney, M. and Lingwood, C. 2004. Synergistic effect of Verotoxin and interferon- α on erythropoiesis. *Cell. Mol. Biol.* 49: 1363-1369.

SOURCE

Verotoxin IIA (7584) is a mouse monoclonal antibody raised against partially purified native Verotoxin.

RESEARCH USE

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

PRODUCT

Each vial contains 100 μ g IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Verotoxin IIA (7584) is recommended for detection of Verotoxin IIA by solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

STORAGE

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

PROTOCOLS

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