



SEB (S643): sc-52229

BACKGROUND

Staphylococcus enterotoxin B (SEB) is a member of the *Staphylococcal* enterotoxin family. *Staphylococcal* enterotoxins are proteins secreted by *Staphylococcus aureus* that cause food poisoning. The illness is characterized by high fever, hypotension, diarrhea, shock and sometimes death. The molecular masses of *Staphylococcal* enterotoxins are single chain polypeptides containing one disulfide bond formed by two half cystines in the middle of the chain. SEB commonly is referred to as a "bacterial superantigen" because it is an extremely potent activator of T cells, stimulating the production and secretion of various cytokines which mediate many of the toxic effects of SEB. SEB also inhibits naturally occurring regulatory T cell (nTreg) activity.

REFERENCES

- Schultz, H., Geiselhart, A., Sappler, G., Niethammer, D., Hoffmann, M.K. and Dannecker, G.E. 1996. The superantigen *Staphylococcus* enterotoxin B induces a strong and accelerated secondary T cell response rather than anergy. *Immunology* 87: 49-54.
- Mukhin, D.N. and Chatterjee, S. 1997. A receptor-based immunoassay to detect *Staphylococcus* enterotoxin B in biological fluids. *Anal. Biochem.* 245: 213-217.
- Seprényi, G., Shibata, T., Onody, R. and Kohsaka, T. 1997. In *Staphylococcus* of non-T cells might have a major role in the mechanism of glomerular endothelial cells' injury. *Immunobiology* 197: 44-54.
- Huang, C.C., Coppola, M.A., Nguyen, P., Carragher, D., Rohl, C., Flynn, K.J., Altman, J.D. and Blackman, M.A. 2000. Effect of *Staphylococcus* enterotoxin B on the concurrent CD8⁺ T cell response to influenza virus infection. *Cell. Immunol.* 204: 1-10.
- Wang, X., Wang, B.R., Zhang, X.J., Duan, X.L., Guo, X. and Ju, G. 2004. Fos expression in the rat brain after intraperitoneal injection of *Staphylococcus* enterotoxin B and the effect of vagotomy. *Neurochem. Res.* 29: 1667-1674.
- Watson, J.L., Vicario, M., Wang, A., Moreto, M. and McKay, D.M. 2005. Immune cell enterotoxin B is attenuated by the green tea polyphenol (-)-epigallocatechin gallate. *Cell. Immunol.* 237: 7-16.
- Cardona, I.D., Goleva, E., Ou, L.S. and Leung, D.Y. 2006. *Staphylococcal* enterotoxin TNF receptor-related protein ligand on monocytes. *J. Allergy Clin. Immunol.* 117: 688-695.
- Dong, Y., Phillips, K.S. and Cheng, Q. 2006. Immunosensing of *Staphylococcus* enterotoxin B (SEB) in milk with PDMS microfluidic systems using reinforced supported bilayer membranes (r-SBMs). *Lab Chip* 6: 675-681.
- Liu, T., Kong, W., Yang, P. and Wang, B. 2006. A possible association of *Staphylococcus* enterotoxin B-induced asthma and sinusitis. *J. Huazhong Univ. Sci. Technol. Med. Sci.* 26: 63-67.

SOURCE

SEB (S643) is a mouse monoclonal antibody raised against recombinant enterotoxin B of *Staphylococcus aureus* origin.

PRODUCT

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

APPLICATIONS

SEB (S643) is recommended for detection of enterotoxin B of *Staphylococcus aureus* origin by solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Molecular Weight of SEB: 31 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.