

# SEB (2B33): sc-73351

## 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. *Staphylococcus* 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

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- 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., et al. 1997. In *Staphylococcus* enterotoxin B (SEB)-stimulated human PBMC, the LAK activity of non-T cells might have a major role in the mechanism of glomerular endothelial cells' injury. *Immunobiology* 197: 44-54.
- Huang, C.C., et al. 2000. Effect of *Staphylococcus* enterotoxin B on the concurrent CD8<sup>+</sup> T cell response to influenza virus infection. *Cell. Immunol.* 204: 1-10.
- Wang, X., et al. 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., et al. 2005. Immune cell enterotoxin B is attenuated by the green tea polyphenol (-)-epigallocatechin gallate. *Cell. Immunol.* 237: 7-16.
- Cardona, I.D., et al. 2006. *Staphylococcal* enterotoxin TNF receptor-related protein ligand on monocytes. *J. Allergy Clin. Immunol.* 117: 688-695.
- Dong, Y., et al. 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., et al. 2006. A possible association of *Staphylococcus* enterotoxin B-induced asthma and sinusitis. *J. Huazhong Univ. Sci. Technol. Med. Sci.* 26: 63-67.

## SOURCE

SEB (2B33) is a mouse monoclonal antibody raised against Enterotoxin B of *Staphylococcus aureus* origin.

## STORAGE

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

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

SEB (2B33) is available conjugated to agarose (sc-73351 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-73351 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-73351 PE), fluorescein (sc-73351 FITC), Alexa Fluor® 488 (sc-73351 AF488), Alexa Fluor® 546 (sc-73351 AF546), Alexa Fluor® 594 (sc-73351 AF594) or Alexa Fluor® 647 (sc-73351 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-73351 AF680) or Alexa Fluor® 790 (sc-73351 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

SEB (2B33) is recommended for detection of enterotoxin B of *Staphylococcus aureus* origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and flow cytometry (1 µg per 1 x 10<sup>6</sup> cells).

Molecular Weight of SEB: 31 kDa.

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:  
 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™  
 Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

## SELECT PRODUCT CITATIONS

- Gu, G., et al. 2013. Ubiquitin E3 Ligase A20 is required in degradation of microbial superantigens in vascular endothelial cells. *Cell Biochem. Biophys.* 66: 649-655.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.