SEG (SEG-16): sc-66138



The Power to Question

BACKGROUND

Enterotoxins are microorganism-released cytotoxic proteins that are able to change the permeability of epithelial cells, thus leading to the formation of bacterial pores in the cell membrane and ultimately causing cell death. *Staphylococcus aureus*, a human pathogen, releases a variety of major enterotoxins, all of which are heat stable and can cause gastroenteritis if secreted in the intestine. SEs (*Staphylococcus* enterotoxins) induce an immune response by binding to T-cell receptors and MCH proteins but, unlike other antigens, SEs are able to resist being internalized and processed by the host cell, thus making them superantigens. SEG (*Staphylococcus* enterotoxin G) is a 233 amino acid enterotoxin that is produced by *Staphylococcus* and is secreted into the intestine. SEG intoxication can lead to staphylococcal (staph) food poisoning which is often characterized by nausea, vomiting, stomach cramps and diarrhea.

REFERENCES

- 1. Herman, A., Kappler, J.W., Marrack, P. and Pullen, A.M. 1991. Superantigens: mechanism of T-cell stimulation and role in immune responses. Annu. Rev. Immunol. 9: 745-772.
- 2. Kotzin, B.L., Leung, D.Y., Kappler, J. and Marrack, P. 1993. Superantigens and their potential role in human disease. Adv. Immunol. 54: 99-166.
- Balaban, N. and Rasooly, A. 2000. Staphylococcal enterotoxins. Int. J. Food Microbiol. 61: 1-10.
- 4. Le Loir, Y., Baron, F. and Gautier, M. 2003. *Staphylococcus aureus* and food poisoning. Genet. Mol. Res. 2: 63-76.
- Sergeev, N., Volokhov, D., Chizhikov, V. and Rasooly, A. 2004. Simultaneous analysis of multiple staphylococcal enterotoxin genes by an oligonucleotide microarray assay. J. Clin. Microbiol. 42: 2134-2143.
- Zschöck, M., Kloppert, B., Wolter, W., Hamann, H.P. and Lämmler, C.H. 2005.
 Pattern of enterotoxin genes seg, seh, sei and sej positive *Staphylococcus aureus* isolated from bovine mastitis. Vet. Microbiol. 108: 243-249.
- El-Huneidi, W., Bdour, S. and Mahasneh, A. 2006. Detection of enterotoxin genes seg, seh, sei, and sej and of a novel aroA genotype in Jordanian clinical isolates of *Staphylococcus aureus*. Diagn. Microbiol. Infect. Dis. 56: 127-132.
- 8. Thomas, D., Chou, S., Dauwalder, O. and Lina, G. 2007. Diversity in *Staphylococcus aureus* enterotoxins. Chem. Immunol. Allergy 93: 24-41.
- Naik, S., Smith, F., Ho, J., Croft, N.M., Domizio, P., Price, E., Sanderson, I.R. and Meadows, N.J. 2008. Staphylococcal enterotoxins G and I, a cause of severe but reversible neonatal enteropathy. Clin. Gastroenterol. Hepatol. 6: 251-254.

SOURCE

SEG (SEG-16) is a mouse monoclonal antibody raised against enterotoxin G of *Staphylococcus aureus* origin.

PRODUCT

Each vial contains 100 μg lgG_{2a} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

SEG (SEG-16) is recommended for detection of enterotoxin G of *Staphylococcus aureus* origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000).

Molecular Weight of SEG: 30 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.

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