



SEA (A111): sc-73346

BACKGROUND

Staphylococcus enterotoxin A (SEA) 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* enterotoxin A are single chain polypeptides containing one disulfide bond formed by two half cystines in the middle of the chain. Enterotoxins cause T cell activation accompanied by induction of interleukin-2. Interferon is conditioned by interaction of *Staphylococcus* enterotoxins with class II MHC molecules and subsequent presentation of the complex formed to a variable region of the T cell receptor.

REFERENCES

1. Dack, G.M. 1964. *Staphylococcus* enterotoxin: a review. Jpn. J. Med. Sci. Biol. 16: 1-12.
2. Silverman, S.J. 1964. Serological assay of culture filtrates for *Staphylococcus* enterotoxin. J. Bacteriol. 85: 955-956.
3. Lin, T.M., Nash, J.F., Ensminger, P.W. and Benslay, D.N. 1967. Mechanism study of the action of Malethamer in *Staphylococcus* enterotoxin-induced diarrhea in monkeys. Arch. Int. Pharmacodyn Ther. 169: 162-176.
4. Ezechuk, Y.V., Morgan, S.D. and Major, P. 1981. A simple procedure for isolation and purification of A-type *Staphylococcus* enterotoxin. Acta Microbiol. Acad. Sci. Hung. 28: 25-30.
5. Mollick, J.A., Cook, R.G. and Rich, R.R. 1989. Class II MHC molecules are specific receptors for *Staphylococcus* enterotoxin A. Science 244: 817-820.
6. Baskar, P., Hildreth, J.E., Chrest, F.J., Nagel, J.E. and Adler, W.H. 1996. Anti-HLA class I antibody inhibits *Staphylococcus* enterotoxin A (SEA)-induced proliferation of human PBMC. Cell. Immunol. 172: 135-138.
7. Gerwien, J., Kaltoft, K., Nielsen, M., Nielsen, M.B., Svejgaard, A., Geisler, C., Röpke, C. and Odum, N. 1998. *Staphylococcus* enterotoxin A modulates interleukin-15-induced signaling and mitogenesis in human T cells. Tissue Antigens 51: 164-173.
8. Rosendahl, A., Hansson, J., Antonsson, P., Sekaly, R.P., Kalland, T. and Dohlsten, M. 1998. A mutation of F47 to A in *Staphylococcus* enterotoxin A activates the T cell receptor V β repertoire *in vivo*. Infect. Immun. 65: 5118-5124.
9. D'Souza, S., McGrath, H. and Sekaly, R.P. 2003. Early activation events differentiate the reactivity of two T cell families to *Staphylococcus* enterotoxin A. Cell. Immunol. 223: 113-119.

SOURCE

SEA (A111) is a mouse monoclonal antibody raised against *Staphylococcus aureus* enterotoxin A.

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 μ g IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

SEA (A111) is available conjugated to either phycoerythrin (sc-73346 PE) or fluorescein (sc-73346 FITC), 200 μ g/ml, for IF, IHC(P) and FCM.

APPLICATIONS

SEA (A111) is recommended for detection of SEA of *Staphylococcus* origin by flow cytometry (1 μ g per 1 x 10⁶ cells); also recommended for detection of enterotoxin E.

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.