# SEI (SEI-17A): sc-66135



The Power to Question

## **BACKGROUND**

Staphylococcus represents a family of Gram-positive bacterial cocci that frequently live on the skin or in the nose of humans. Staphylococci produce  $\beta$ -lactamase, an enzyme which breaks down the  $\beta$ -lactam ring of the penicillin molecule, making it resistant to most penicillin and cephalosporins. Staphylococci cause a broad range of illnesses from minor skin infections and abscesses to life-threatening diseases such as pneumonia, meningitis, endocarditis, septicemia and toxic shock syndrome (TSS). Toxic shock syndrome toxin-1 (TSST-1) is a staphylococcal secreted exotoxin that is responsible for TSS, since it leads to non-specific binding of MHC II with T cell receptors, resulting in polyclonal T cell activation. Symptoms of TSS include high fever, accompanied by low blood pressure, malaise and confusion, which can rapidly progress to stupor, coma and multi-organ failure. Staphylococcus enterotoxin I (SEI) is encoded in the egc operon of S. aureus, and is associated with TSS, food poisoning and various veterinary diseases.

## **REFERENCES**

- Curran, J.P. and Al-Salihi, F.L. 1980. Neonatal staphylococcal scalded skin syndrome: massive outbreak due to an unusual phage type. Pediatrics 66: 285-290.
- Hofer, M.F., Newell, K., Duke, R.C., Schlievert, P.M., Freed, J.H. and Leung, D.Y. 1996. Differential effects of Staphylococcal toxic shock syndrome toxin-1 on B cell apoptosis. Proc. Natl. Acad. Sci. USA 93: 5425-5430.
- Jabara, H.H. and Geha, R.S. 1996. The superantigen toxic shock syndrome toxin-1 induces CD40 ligand expression and modulates IgE isotype switching. Int. Immunol. 8: 1503-1510.
- Hiramatsu, K., Hanaki, H., Ino, T., Yabuta, K., Oguri, T. and Tenover, F.C. 1997. Methicillin-resistant Staphylococcus aureus clinical strain with reduced vancomycin susceptibility. J. Antimicrob. Chemother. 40: 135-136.
- 5. Chambers, H.F. 2001. The changing epidemiology of *Staphylococcus aureus?* Emerg. Infect. Dis. 7: 178-182.
- Chang, S., Sievert, D.M., Hageman, J.C., Boulton, M.L., Tenover, F.C., Downes, F.P., Shah, S., Rudrik, J.T., Pupp, G.R., Brown, W.J., Cardo, D. and Fridkin, S.K. For the Vancomycin-Resistant *Staphylococcus aureus* Investigative Team. 2003. Infection with vancomycin-resistant *Staphylococcus aureus* containing the vanA resistance gene. N. Engl. J. Med. 348: 1342-1347.
- Buonpane, R.A., Moza, B., Sundberg, E.J. and Kranz, D.M. 2005. Characterization of T cell receptors engineered for high affinity against toxic shock syndrome toxin-1. J. Mol. Biol. 353: 308-321.
- Parsonnet, J., Hansmann, M.A., Delaney, M.L., Modern, P.A., Dubois, A.M., Wieland-Alter, W., Wissemann, K.W., Wild, J.E., Jones, M.B., Seymour, J.L. and Onderdonk, A.B. 2005. Prevalence of toxic shock syndrome toxin 1producing *Staphylococcus aureus* and the presence of antibodies to this superantigen in menstruating women. J. Clin. Microbiol. 43: 4628-4634.
- Fernández, M.M., Guan, R., Swaminathan, C.P., Malchiodi, E.L. and Mariuzza, R.A. 2006. Crystal structure of staphylococcal enterotoxin I (SEI) in complex with a human major histocompatibility complex class II molecule. J. Biol. Chem. 281: 25356-25364.

#### **SOURCE**

SEI (SEI-17A) is a mouse monoclonal antibody raised against enterotoxin I of *Staphylococcus aureus* origin.

## **PRODUCT**

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

## **APPLICATIONS**

SEI (SEI-17A) is recommended for detection of enterotoxin I of *Staphylococcus aureus* origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000).

#### **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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