SANTA CRUZ BIOTECHNOLOGY, INC.

LTH-A (AE7): sc-52062

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

An enterotoxin is a toxin that is released by a microbe in the lower intestine. Enterotoxins alter the permeability of the intestinal wall, promoting water and electrolytes to leak into the intestinal tract, which causes diarrhea. LTH is a heat-labile enterotoxin of *Escherichia coli* that is structurally similar to the *Vibrio cholerae* enterotoxin (CT). It is pathogenic for humans and produced by some enterotoxigenic *E. coli* (ETEC), which is are leading cause of diarrhoeal morbidity and mortality in developing countries. LTH has the ability to penetrate intact skin and to activate adaptive immunity, and beacuse of this, it may be useful for the transcutaneous delivery of tumor antigens for cancer immunotherapy. LTH-A referrs to the 258-amino acid LTH chain precursor, while LTH-B referrs to the 103-amino acid LTH chain precursor.

REFERENCES

1. Belisle, B.W., Twiddy, E.M. and Holmes, R.K. 1984. Characterization of monoclonal a by a plasmid from a clinical isolate of *Escherichia coli*. Infect. Immun. 43: 1027-1032.
2. Belisle, B.W., Twiddy, E.M. and Holmes, R.K. 1984. Monoclonal antibodies with an ex neutralizing activity for *Escherichia coli* heat-labile enterotoxin. Infect. Immun. 46: 759-764.
3. Yamamoto, T., Tamura, T. and Yokota, T. 1984. Primary structure of heat-labile enterotoxin produced by *Escherichia coli* pathogenic for humans. J. Biol. Chem. 259: 5037-5044.
4. Svennerholm, A.M., Wikström, M., Lindblad, M. and Holmgren, J. 1986. Monoclonal antibodies to *Escherichia coli* heat-labile enterotoxins: neutralising activity and differentiation of human and porcine LTs and cholera toxin. Med. Biol. 64: 23-30.
5. Karaman, S., Cunnick, J. and Wang, K. 2005. Analysis of immune response in young antigen against *Escherichia coli* heat-labile enterotoxin. Mol. Biotechnol. 32: 31-42.
6. Chen, J.C., Ho, T.Y., Chang, Y.S., Wu, S.L. and Hsiang, C.Y. 2006. Anti-diarrheal effect of *Galla chinensis* on the *Escherichia coli* heat-labile enterotoxin and ganglioside interaction. J. Ethnopharmacol. 103: 385-391.
7. Dorsey, F.C., Fischer, J.F. and Fleckenstein, J.M. 2006. Directed delivery of heat-labile enterotoxin by enterotoxigenic *Escherichia coli*. Cell. Microbiol. 8: 1516-1527.
8. Pitcovski, J., Bazak, Z., Wasserman, E., Elias, O., Levy, A., Peretz, T., Fingerut, E. and Frankenburg, S. 2006. Heat labile enterotoxin of *E. coli:* a potential cancer immunotherapy. Vaccine 24: 636-643.
9. Yamanaka, H., Ishibashi, D., Yamaguchi, N., Yoshikawa, D., Nakamura, R., Okimura, N., Arakawa, T., Tsuji, T., Katamine, S. and Sakaguchi, S. 2006. Enhanced mucos of *Escherichia coli* heat-labile enterotoxin. Vaccine 24: 2815-2823.

SOURCE

LTH-A (AE7) is a mouse monoclonal antibody raised against LTH-A of *E. coli* origin.

PRODUCT

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

APPLICATIONS

LTH-A (AE7) is recommended for detection of LTH-A of *E. coli* origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000).

Molecular Weight of LTH-A: 30 kDa.

SELECT PRODUCT CITATIONS

1. Luangsay, S., Ait-Goughoulte, M., Michelet, M., Floriot, O., Bonnin, M., Gruffaz, M., Rivoire, M., Fletcher, S., Javanbakht, H., Lucifora, J., Zoulim, F. and Durantel, D. 2015. Expression and functionality of TolI- and RIG-like receptors in HepaRG cells. J. Hepatol. 63: 1077-1085.

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.