



ESAT6 (11 G4): sc-80586

BACKGROUND

Mycobacterium tuberculosis is a slow-growing obligate aerobic bacillus that causes most cases of tuberculosis (TB). It is a small, rod-like microbe that can withstand weak disinfectants and survive in a dry state for weeks, but can only grow within a host organism. *M. tuberculosis* has a thick waxy cell wall that is responsible for the typical caseous granuloma formation in tuberculosis. ESAT6 is a protein secreted by *M. tuberculosis* that induces a strong immune response in infected organisms, making it a strong candidate for the development of a vaccine against tuberculosis. ESAT6 may also be useful in the detection of the disease. Deletion of the ESAT6 gene leads to the loss of virulence of *M. tuberculosis*.

REFERENCES

1. Ulrichs, T., Munk, M.E., Mollenkopf, H., Behr-Perst, S., Colangeli, R., Gennaro, M.L. and Kaufmann, S.H. 1999. Differential T cell responses to *Mycobacterium tuberculosis* ESAT6 in tuberculosis patients and healthy donors. *Eur. J. Immunol.* 28: 3949-3958.
2. Wards, B.J., de Lisle, G.W. and Collins, D.M. 2000. An ESAT6 knockout mutant of *Mycobacterium bovis* produced by homologous recombination will contribute to the development of a live tuberculosis vaccine. *Tuber. Lung Dis.* 80: 185-189.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 604305. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
4. Wang, Q.M., Sun, S.H., Hu, Z.L., Yin, M., Xiao, C.J. and Zhang, J.C. 2004. Improved immunogenicity of a tuberculosis DNA vaccine encoding ESAT6 by DNA priming and protein boosting. *Vaccine* 22: 3622-3627.
5. Dietrich, J., Aagaard, C., Leah, R., Olsen, A.W., Stryhn, A., Doherty, T.M. and Andersen, P. 2005. Exchanging ESAT6 with TB10.4 in an Ag85B fusion molecule-based tuberculosis subunit vaccine: efficient protection and ESAT6-based sensitive monitoring of vaccine efficacy. *J. Immunol.* 174: 6332-6339.
6. Fan, X.L., Wang, L.M., Lu, X.Y., Tu, Z.G., Shi, C.H. and Xu, Z.K. 2005. Cloning and expression of the fusion protein of interleukin-2 and ESAT6 in *Mycobacterium bovis* bacillus Calmette-Guerin strain. *Chin. Med. J.* 118: 762-765.
7. Wang, X.Y., Bao, L., Zhao, M.C., Zhang, H.D. and Long, Y. 2006. Expression of the fusion protein CFP10-ESAT6 of *Mycobacterium tuberculosis* and the study of its immunogenicity. *Sichuan Da Xue Xue Bao Yi Xue Ban* 37: 353-356.

SOURCE

ESAT6 (11 G4) is a mouse monoclonal antibody raised against PPD from *Mycobacterium tuberculosis*.

PRODUCT

Each vial contains 100 µg IgG₁ in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

ESAT6 (11 G4) is recommended for detection of ESAT6 of *Mycobacterium tuberculosis* origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000).

Molecular Weight of ESAT6: 6 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.