



Gram Negative Endotoxin Marker (8.F.121): sc-57751

BACKGROUND

Bacterial cells are classified as Gram-negative if they do not retain a crystal violet dye during the Gram stain process. Gram-negative bacteria appear red or pink under a microscope after the stain has been applied, whereas Gram-positive bacterial look blue or violet. This difference in color is mainly due to the characteristics of the cell wall. Gram-negative bacteria only have a few layers of peptidoglycan surrounded by an outer membrane of lipopolysaccharide (LPS), also known as the Endotoxin. Many species of Gram-negative bacteria are pathogenic, mainly due to certain components of their cell walls. LPS, in particular, induces a strong response from normal animal immune systems, and it also contributes greatly to the structural integrity of the bacteria. The LPS protects the bacterial cell membrane from certain kinds of chemical attacks.

REFERENCES

1. Elsbach, P. 1995. Bactericidal permeability-increasing protein in host defence against Gram-negative bacteria and Endotoxin. *Ciba Found. Symp.* 186: 176-189.
2. Castro, A., Bemer, V., Nóbrega, A., Coutinho, A. and Truffa-Bachi, P. 1998. Administration to mouse of Endotoxin from Gram-negative bacteria leads to activation and apoptosis of T lymphocytes. *Eur. J. Immunol.* 28: 488-495.
3. Ulevitch, R.J. and Tobias, P.S. 1999. Recognition of Gram-negative bacteria and Endotoxin by the innate immune system. *Curr. Opin. Immunol.* 11: 19-22.
4. Roger, T., Glauser, M.P. and Calandra, T. 2001. Macrophage migration inhibitory factor (MIF) modulates innate immune responses induced by Endotoxin and Gram-negative bacteria. *J. Endotoxin Res.* 7: 456-460.
5. Bondarenko, V.M., Likhoded, V.G. and Iakovlev, M.Iu. 2002. Detection of the Endotoxin of Gram-negative bacteria in human blood. *Zh. Mikrobiol. Epidemiol. Immunobiol.* 2: 83-89.
6. Xu, N., Yuan, J., Xiao, G., Zheng, J. and Qin, X. 2002. An experimental study on the release of Endotoxin from Gram-negative bacteria induced by antibiotics. *Zhonghua Shao Shang Za Zhi* 17: 75-79.
7. Ueyama, J., Nadai, M., Kanazawa, H., Iwase, M., Nakayama, H., Hashimoto, K., Yokoi, T., Baba, K., Takagi, K., Takagi, K. and Hasegawa, T. 2005. Endotoxin from various Gram-negative bacteria has differential effects on function of hepatic cytochrome P450 and drug transporters. *Eur. J. Pharmacol.* 510: 127-134.
8. Szymanska, J. 2005. Endotoxin level as a potential marker of concentration of Gram-negative bacteria in water effluent from dental units and in dental aerosols. *Ann. Agric. Environ. Med.* 12: 229-332.
9. Lipscomb, I.P., Sihota, A.K. and Keevil, C.W. 2006. Comparative study of surgical instruments from sterile-service departments for presence of residual Gram-negative Endotoxin and proteinaceous deposits. *J. Clin. Microbiol.* 44: 3728-3733.

SOURCE

Gram Negative Endotoxin Marker (8.F.121) is a mouse monoclonal antibody raised against *E. coli* J5 whole cells.

PRODUCT

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

APPLICATIONS

Gram Negative Endotoxin Marker (8.F.121) is recommended for detection of Gram Negative Endotoxin of *Escherichia coli* J5 and Gram negative organisms origin by solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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.