

# Legionella pneumophila (266): sc-57898

## BACKGROUND

*Legionella pneumophila* is a Gram-negative bacterium that is considered an intracellular parasite and is associated with Legionnaires' disease. While *L. pneumophila* is categorized as a Gram-negative organism, it stains poorly due to its unique lipopolysaccharide (LPS)-content in the outer leaflet of the outer cell membrane. Respiratory transmission of this organism can lead to infection, which is usually characterized by a gradual onset of flu-like symptoms. Patients may experience fever, chills and a dry cough as part of the early symptoms and can develop severe pneumonia, which is not responsive to penicillins or aminoglycosides. Legionnaires' disease also has the potential to spread into other organ-systems of the body such as the gastrointestinal tract and the central nervous system.

## REFERENCES

- Cianciotto, N.P. 2001. Pathogenicity of *Legionella pneumophila*. Int. J. Med. Microbiol. 291: 331-343.
- Lück, P.C., Freier, T., Steudel, C., Knirel, Y.A., Lüneberg, E., Zähringer, U. and Helbig, J.H. 2001. A point mutation in the active site of *Legionella pneumophila* O-acetyltransferase results in modified lipopolysaccharide but does not influence virulence. Int. J. Med. Microbiol. 291: 345-352.
- Lüneberg, E., Mayer, B., Daryab, N., Kooistra, O., Zähringer, U., Rohde, M., Swanson, J. and Frosch, M. 2001. Chromosomal insertion and excision of a 30 kb unstable genetic element is responsible for phase variation of lipopolysaccharide and other virulence determinants in *Legionella pneumophila*. Mol. Microbiol. 39: 1259-1271.
- Matsunaga, K., Klein, T.W., Newton, C., Friedman, H. and Yamamoto, Y. 2001. *Legionella pneumophila* suppresses interleukin-12 production by macrophages. Infect. Immun. 69: 1929-1933.
- Girard, R., Pedron, T., Uematsu, S., Balloy, V., Chignard, M., Akira, S. and Chaby, R. 2002. Lipopolysaccharides from *Legionella* and *Rhizobium* stimulate mouse bone marrow granulocytes via Toll-like receptor 2. J. Cell Sci. 116: 293-302.
- Hellman, J., Tehan, M.M. and Warren, H.S. 2003. Murein lipoprotein, peptidoglycan-associated lipoprotein and outer membrane protein A are present in purified rough and smooth lipopolysaccharides. J. Infect. Dis. 188: 286-289.
- Lettinga, K.D., Weijer, S., Speelman, P., Prins, J.M., Van Der Poll, T. and Verbon, A. 2003. Reduced interferon- $\gamma$  release in patients recovered from Legionnaires' disease. Thorax 58: 63-67.
- Vedam, V., Kannenberg, E.L., Haynes, J.G., Sherrier, D.J., Datta, A. and Carlson, R.W. 2003. A *Rhizobium leguminosarum* AcpXL mutant produces lipopolysaccharide lacking 27-hydroxyoctacosanoic acid. J. Bacteriol. 185: 1841-1850.
- Rogers, J., Perkins, I., van Olphen, A., Burdash, N., Klein, T.W. and Friedman, H. 2005. Epigallocatechin gallate modulates cytokine production by bone marrow-derived dendritic cells stimulated with lipopolysaccharide or muramyl dipeptide, or infected with *Legionella pneumophila*. Exp. Biol. Med. (Maywood) 230: 645-651.

## SOURCE

*Legionella pneumophila* (266) is a mouse monoclonal antibody raised against *Legionella pneumophila* type 1 whole cells.

## PRODUCT

Each vial contains 100  $\mu$ g IgG<sub>3</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

*Legionella pneumophila* (266) is recommended for detection of *Legionella pneumophila* serogroup 1 by immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500); also recommended for detection of Pontiac 1, Benidorm, Knoxville and Philadelphia. Non cross-reactive with *L. erythra*, *L. dumoffi* and related microorganisms.

## 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](http://www.scbt.com) for detailed protocols and support products.