SANTA CRUZ BIOTECHNOLOGY, INC.

P1 Adhesion (bC-19): sc-17455

BACKGROUND

Mycoplasma pneumoniae is the cause of primary atypical pneumonia. Its pathogenic properties stem from the bacterium's tight adhesion to host cells, which results in a build up of released metabolic toxins such as hydrogen peroxide and ammonia. Mechanisms of mycoplasmal cytadherence are best understood in *M. pneumoniae*, which possesses a terminal structure known to play a role in adhesion, gliding motility movement and cell division. This adhesion tip is a membrane bound protein structure consisting of an intracytoplasmic core and a terminal bud, which are part of a cytoskeletal-like complex. The tip protein P1 is directly responsible for cytadherence. The P1 protein, a transmembrane protein of 170 kDa, was the first host receptor binding to protein discovered in *M. pneumoniae*. P30 may play a similar role, but all other proteins localized in the terminal tip (HMW1, HMW2, HMW3, ORF6 product) either serve structural roles or to localize or stabilize P1. Transport of P1 adhesion is believed to be regulated, at least in part, by proteins HMW1 through HMW5.

REFERENCES

1. Hahn, T.W., Willby, M.J., and Krause, D.C. 1998. HMW1 is required for cytadhesin P1 trafficking to the attachment organelle in *Mycoplasma pneumoniae*. J. Bacteriol. 5: 1270-1276.
2. Bencina, D., Dovc, P., Mueller-Premru, M., Avsic-Zupanc, T., Socan, M., Beovic, B., Arnez, M., and Narat, M. 2000. Intrathecal synthesis of specific antibodies in patients with invasion of the central nervous system by *Mycoplasma pneumoniae*. Eur. J. Clin. Microbiol. Infect. Dis. 7: 521-530.
3. Layh-Schmitt, G., Podtelejnikov, A., and Mann, M. 2000. Proteins complexed to the P1 adhesin of *Mycoplasma pneumoniae*. Microbiology 3: 741-747.
4. Tuuminen, T., Suni, J., Kleemola, M., and Jacobs, E. 2001. Improved sensitivity and specificity of enzyme immunoassays with P1-adhesin enriched antigen to detect acute *Mycoplasma pneumoniae* infection. J. Microbiol. Methods 1: 27-37.
5. Seto, S., Layh-Schmitt, G., Kenri, T., and Miyata, M. 2001. Visualization of the attachment organelle and cytadherence proteins of *Mycoplasma pneumoniae* by immunofluorescence microscopy. J. Bacteriol. 5: 1621-1630.

SOURCE

P1 Adhesion (bC-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of P1 Adhesion of *M. pneumoniae* origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-17455 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

P1 adhesion (bC-19) is recommended for detection of P1 adhesion of *M. pneumoniae* origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.