



SpeB (bD-12): sc-22555

BACKGROUND

Streptococcus pneumoniae is a major bacterial pathogen that causes diseases such as pneumonia and meningitis in humans. The streptococcal cysteine protease, otherwise known as SpeB, is one of the major virulence factors produced by group A streptococci (GAS). The 28-kDa SpeB protein carries laminin-binding activity of the bacteria. SpeB is not only a secreted molecule it also occurs tightly bound to the bacterial cell surface. Thus, in contrast to the previous view of SpeB as mainly an extracellular protease, it is also present as a streptococcal surface molecule with binding activity to laminin and other glycoproteins. Pneumococcal surface protein A, otherwise identified as PspA, is another antigen of *Streptococcus pneumoniae*. PspA, a lactoferrin binding protein, is a virulence factor of the bacteria. The amino-terminal domain of PspA is a functional module essential for full pneumococcal infectivity.

REFERENCES

1. Briles, D.E., et al. 2000. Immunization of humans with recombinant pneumococcal surface protein A (rPspA) elicits antibodies that passively protect mice from fatal infection with *Streptococcus pneumoniae* bearing heterologous PspA. *J. Infect. Dis.* 6: 1694-1701.
2. Kansal, R.G., et al. 2000. Inverse relation between disease severity and expression of the streptococcal cysteine protease, SpeB, among clonal MIT1 isolates recovered from invasive group A streptococcal infection cases. *Infect. Immun.* 11: 6362-6369.
3. Lamani, E., et al. 2000. Production, characterization, and crystallization of truncated forms of pneumococcal surface protein A from *Escherichia coli*. *Protein Expr. Purif.* 3: 379-388.
4. Hytonen, J., et al. 2001. The SpeB virulence factor of *Streptococcus pyogenes*, a multifunctional secreted and cell surface molecule with streptadhesin, laminin-binding and cysteine protease activity. *Mol. Microbiol.* 2: 512-519.

SOURCE

SpeB (bD-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of SpeB of *Streptococcus pyogenes* 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-22555 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.

PROTOCOLS

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

APPLICATIONS

SpeB (bD-12) is recommended for detection of SpeB of sp 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).

Molecular Weight of SpeB: 28 kDa.

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.