

SP-B (H-300): sc-13978

BACKGROUND

Pulmonary surfactant is primarily responsible for lowering the surface tension at the air-liquid interface in the alveoli, a process that is essential for normal respiration. Pulmonary surfactant is a mixture of phospholipids and proteins, including four distinct surfactant-associated proteins (SPs), SP-A, SP-B, SP-C and SP-D. SP-B and SP-C are predominantly hydrophobic proteins that associate with lipids to promote the absorption of surfactant phospholipids and to reduce the surface tension in the alveoli. SP-A and SP-D are large multimeric proteins belonging to the family of calcium-dependent lectins, designated collectins, which contribute to the innate immune system. Both SP-A and SP-D have been shown to protect against microbial challenge through binding to the lipid components of the bacterial cell wall and facilitating the rapid removal of microbes.

REFERENCES

1. Glasser, S.W., et al. 1990. Structure and expression of the pulmonary surfactant protein SP-C gene in the mouse. *J. Biol. Chem.* 265: 21986-21991.
2. Hawgood, S., et al. 1991. Structures and properties of the surfactant-associated proteins. *Annu. Rev. Physiol.* 53: 375-394.
3. Johansson, J., et al. 1992. Human surfactant poly-peptide SP-B. Disulfide bridges, C-terminal end and peptide analysis of the airway form. *FEBS Lett.* 301: 165-167.

CHROMOSOMAL LOCATION

Genetic locus: SFTPB (human) mapping to 2p11.2; Sftpb (mouse) mapping to 6 C1.

SOURCE

SP-B (H-300) is a rabbit polyclonal antibody raised against amino acids 1-300 of SP-B of human origin.

PRODUCT

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

APPLICATIONS

SP-B (H-300) is recommended for detection of SP-B of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000). Suitable for use as control antibody for SP-B siRNA (h): sc-36537, SP-B siRNA (m): sc-36538, SP-B shRNA Plasmid (h): sc-36537-SH, SP-B shRNA Plasmid (m): sc-36538-SH, SP-B shRNA (h) Lentiviral Particles: sc-36537-V and SP-B shRNA (m) Lentiviral Particles: sc-36538-V.

Molecular Weight of mature SP-B: 9 kDa.

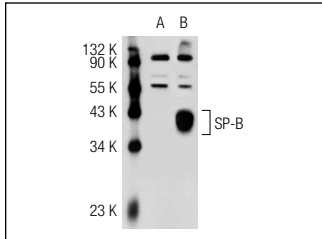
Molecular Weight of SP-B precursor: 43 kDa.

Positive Controls: SP-B (h): 293T Lysate: sc-115028, mouse lung extract: sc-2390 or WI-38 whole cell lysate: sc-364260.

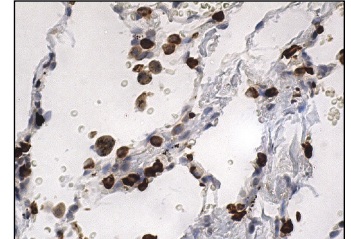
STORAGE

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

DATA



SP-B (H-300): sc-13978. Western blot analysis of SP-B expression in non-transfected: sc-117752 (A) and human SP-B transfected: sc-115028 (B) 293T whole cell lysates.



SP-B (H-300): sc-13978. Immunoperoxidase staining of formalin fixed, paraffin-embedded human lung tissue showing cytoplasmic and nuclear staining of subset of alveolar cells.

SELECT PRODUCT CITATIONS

1. Tong, Q., et al. 2006. Hypoxia-induced mitogenic factor modulates surfactant protein B and C expression in mouse lung. *Am. J. Respir. Cell Mol. Biol.* 34: 28-38.
2. Basseres, D.S., et al. 2006. Respiratory failure due to differentiation arrest and expansion of alveolar cells following lung-specific loss of the transcription factor C/EBP α in mice. *Mol. Cell. Biol.* 26: 1109-1123.
3. Sati, L., et al. 2010. Lung surfactant proteins in the early human placenta. *Histochem. Cell Biol.* 133: 85-93.
4. Kishimoto, K., et al. 2011. Indispensable role of factor for adipocyte differentiation 104 (fad104) in lung maturation. *Exp. Cell Res.* 317: 2110-2123.
5. Fehrholz, M., et al. 2012. Synergistic effect of caffeine and glucocorticoids on expression of surfactant protein B (SP-B) mRNA. *PLoS ONE* 7: e51575.

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.

MONOS
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Guaranteed

Try **SP-B (F-2): sc-133143** or **SP-B (1B9): sc-53137**, our highly recommended monoclonal alternatives to SP-B (H-300).