SANTA CRUZ BIOTECHNOLOGY, INC.

SP-B (C-20)-R: sc-7702-R

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 microbials.

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. and Shiffer, K. 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.
4. Crouch, E., et al. 1993. Genomic organization of human surfactant protein-D (SP-D). SP-D is encoded on chromosome 10q22.2-23.1. J. Biol. Chem. 268: 2976-2983.
5. Rooney, S.A., et al. 1994. Molecular and cellular processing of lung surfactant. FASEB J. 8: 957-967.

CHROMOSOMAL LOCATION

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

SOURCE

SP-B (C-20)-R is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus 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.

Blocking peptide available for competition studies, sc-7702 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

SP-B (C-20)-R is recommended for detection of SP-B of human and, to a lesser extent, mouse and rat 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

SP-B (C-20)-R is also recommended for detection of SP-B in additional species, including canine and bovine.

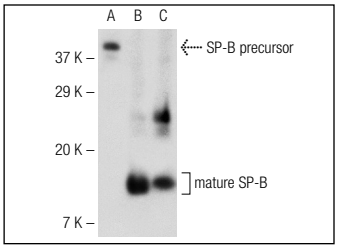
Suitable for use as control antibody for SP-B siRNA (h): sc-36537, SP-B siRNA (m): sc-36538, SP-B shRNA Plasmid (h): sc-36537-SH, SP-B shRNA Plasmid (m): sc-36538-SH, SP-B shRNA (h) Lentiviral Particles: sc-36537-V and SP-B shRNA (m) Lentiviral Particles: sc-36538-V.

Molecular Weight of SP-B precursor: 43 kDa.

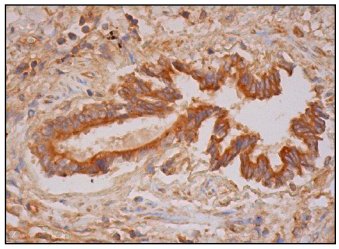
Molecular Weight of mature SP-B: 9 kDa.

Positive Controls: WI-38 whole cell lysate: sc-364260 or A549 cell lysate: sc-2413.

DATA



SP-B (C-20)-R: sc-7702-R. Western blot analysis of SP-B expression in A549 whole cell lysate (**A**) and mouse lung (**B**) and rat lung (**C**) tissue extracts.



SP-B (C-20)-R: sc-7702-R. Immunoperoxidase staining of formalin fixed, paraffin-embedded human bronchus tissue showing cytoplasmic staining of respiratory epithelial cells and extracellular staining of connective tissue.

SELECT PRODUCT CITATIONS

1. Gallot, D., et al. 2008. Effects of maternal retinoic acid administration in a congenital diaphragmatic hernia rabbit model. Pediatr. Pulmonol. 43: 594-603.

RESEARCH USE

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

MONOS Satisfaction Guaranteed

Try **SP-B (F-2): sc-133143** or **SP-B (1B9): sc-53137**, our highly recommended monoclonal alternatives to SP-B (C-20).