SANTA CRUZ BIOTECHNOLOGY, INC.

SP-D (N-14): sc-7709

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, 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., et al. 1991. Structures and properties of the surfactant-associated proteins. Ann. Rev. Physiol. 53: 375-394.
3. Johansson, J., et al. T. 1992. Human surfactant polypeptide SP-B. Disulfide bridges, C-terminal end, and peptide analysis of the airway form. FEBS Lett. 301: 165-167.

CHROMOSOMAL LOCATION

Genetic locus: SFTPD (human) mapping to 10q22.3.

SOURCE

SP-D (N-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of SP-D 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-7709 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

SP-D (N-14) is recommended for detection of SP-D of human 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).

Suitable for use as control antibody for SP-D siRNA (h): sc-36541, SP-D shRNA Plasmid (h): sc-36541-SH and SP-D shRNA (h) Lentiviral Particles: sc-36541-V.

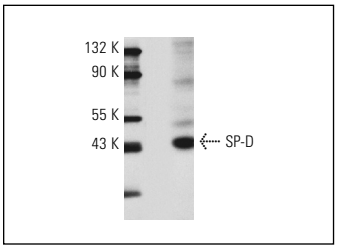
Molecular Weight of SP-D: 43 kDa.

Positive Controls: rat lung extract: sc-2396 or human lung extract: sc-363767.

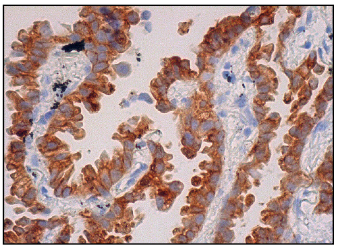
RECOMMENDED SECONDARY REAGENTS

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. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



SP-D (N-14): sc-7709. Western blot analysis of SP-D expression in rat lung extract.



SP-D (N-14): sc-7709. Immunoperoxidase staining of formalin fixed, paraffin-embedded human lung cancer tissue showing cytoplasmic and membrane staining of tumor cells.

SELECT PRODUCT CITATIONS

1. Saini, Y., et al. 2008. HIF-1α is essential for normal intrauterine differentiation of alveolar epithelium and surfactant production in the newborn lung of mice. J. Biol. Chem. 283: 33650-33657.

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 or our catalog for detailed protocols and support products.