SANTA CRUZ BIOTECHNOLOGY, INC.

SP-D (m): 293T Lysate: sc-123722

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

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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 polypeptide 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.
6. Johansson, J., et al. 1997. Molecular structures and interactions of pulmonary surfactant components. Eur. J. Biochem. 244: 675-693.
7. Reid, K.B. 1998. Functional roles of the lung surfactant proteins SP-A and SP-D in innate immunity. Immunobiology 199: 200-207.
8. Wert, S.E., et al. 2000. Increased metalloproteinase activity, oxidant production and emphysema in surfactant protein-D gene-inactivated mice. Proc. Natl. Acad. Sci. USA 97: 5972-5977.
9. McCormack, F.X., et al. 2002. The pulmonary collectins, SP-A and SP-D, orchestrate innate immunity in the lung. J. Clin. Invest. 109: 707-712.

CHROMOSOMAL LOCATION

Genetic locus: Sftpd (mouse) mapping to 14 B.

PRODUCT

SP-D (m): 293T Lysate represents a lysate of mouse SP-D transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

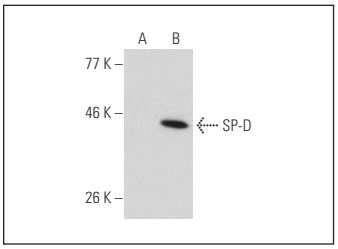
APPLICATIONS

SP-D (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive SP-D antibodies. Recommended use: 10-20 µl per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

SP-D (245-01): sc-59695 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse SP-D expression in SP-D transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

DATA



SP-D (245-01): sc-59695. Western blot analysis of SP-D expression in non-transfected: sc-117752 (**A**) and mouse SP-D transfected: sc-123722 (**B**) 293T whole cell lysates.

RESEARCH USE

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

PROTOCOLS

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