

SP-A (H-148): sc-13977

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. In humans, there are four SFTPA genes localized on chromosome 10. Research indicates that the SFTPA genes are differentially regulated by glucocorticoids, Insulin, and cAMP. Expression of two highly similar SP-A proteins, SP-A1 and SP-A2, has been confirmed.

CHROMOSOMAL LOCATION

Genetic locus: SFTPA1/SFTPA2 (human) mapping to 10q22.3; Sftpa1 (mouse) mapping to 14 B.

SOURCE

SP-A (H-148) is a rabbit polyclonal antibody raised against amino acids 101-248 of SP-A2 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-A (H-148) is recommended for detection of SP-A1 and SP-A2 of human origin and SP-A of 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).

Suitable for use as control antibody for SP-A siRNA (h): sc-36535, SP-A siRNA (m): sc-36536, SP-A shRNA Plasmid (h): sc-36535-SH, SP-A shRNA Plasmid (m): sc-36536-SH, SP-A shRNA (h) Lentiviral Particles: sc-36535-V and SP-A shRNA (m) Lentiviral Particles: sc-36536-V.

Molecular Weight of SP-A: 26-38 kDa.

Positive Controls: mouse lung extract: sc-2390, WI-38 whole cell lysate: sc-364260 or Mv 1 Lu cell lysate: sc-3810.

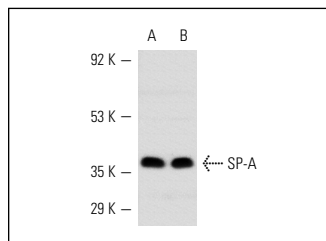
STORAGE

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

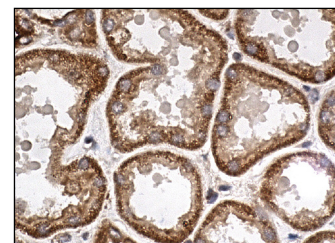
RESEARCH USE

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

DATA



SP-A (H-148): sc-13977. Western blot analysis of SP-A expression in Mv 1 Lu (A) and WI-38 (B) whole cell lysates.



SP-A (H-148): sc-13977. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic staining of cells in tubules.

SELECT PRODUCT CITATIONS

- Ban, N., et al. 2007. ABCA3 as a lipid transporter in pulmonary surfactant biogenesis. *J. Biol. Chem.* 282: 9628-9634.
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- Saini, Y., et al. 2008. HIF1α is essential for normal intrauterine differentiation of alveolar epithelium and surfactant production in the newborn lung of mice. *J. Biol. Chem.* 283: 33650-33657.
- Parra, E.R., et al. 2008. Temporal evolution of epithelial, vascular and interstitial lung injury in an experimental model of idiopathic pulmonary fibrosis induced by butyl-hydroxytoluene. *Int. J. Exp. Pathol.* 89: 350-357.
- Bruce, S.R., et al. 2009. Respiratory syncytial virus infection alters surfactant protein A expression in human pulmonary epithelial cells by reducing translation efficiency. *Am. J. Physiol. Lung Cell. Mol. Physiol.* 297: L559-L567.
- Breuille-Fouché, M., et al. 2010. Secreted surfactant protein A from fetal membranes induces stress fibers in cultured human myometrial cells. *Am. J. Physiol. Endocrinol. Metab.* 298: E1188-E1197.
- Snegovskikh, VV., et al. 2011. Surfactant protein-A (SP-A) selectively inhibits prostaglandin F2α (PGF2α) production in term decidua: implications for the onset of labor. *J. Clin. Endocrinol. Metab.* 96: E624-E632.
- Xiang, X., et al. 2013. Deficiency in pulmonary surfactant proteins in mice with fatty acid binding protein 4-Cre-mediated knockout of the tuberous sclerosis complex 1 gene. *Exp. Physiol.* 98: 830-841.

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Try **SP-A (6F10): sc-80621**, our highly recommended monoclonal alternative to SP-A (H-148).