

# SP-A (6F10): sc-80621

## 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 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.

## 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.

## CHROMOSOMAL LOCATION

Genetic locus: SFTPA1/SFTPA2 (human) mapping to 10q22.3.

## SOURCE

SP-A (6F10) is a mouse monoclonal antibody raised against native SP-A of human origin.

## PRODUCT

Each vial contains 100 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

SP-A (6F10) is recommended for detection of SP-A1 and SP-A2 of 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), 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 shRNA Plasmid (h): sc-36535-SH and SP-A shRNA (h) Lentiviral Particles: sc-36535-V.

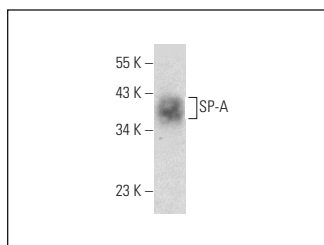
Molecular Weight of SP-A: 26-38 kDa.

Positive Controls: human lung extract: sc-363767 or WI-38 whole cell lysate: sc-364260.

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA



SP-A (6F10): sc-80621. Western blot analysis of SP-A expression in human lung tissue extract.

## SELECT PRODUCT CITATIONS

1. Yang, M. and Nonaka, D. 2010. A study of immunohistochemical differential expression in pulmonary and mammary carcinomas. *Mod. Pathol.* 23: 654-661.
2. Yang, M.Y., et al. 2013. Essential regulation of lung surfactant homeostasis by the orphan G protein-coupled receptor GPR116. *Cell Rep.* 3: 1457-1464.
3. Yu, S., et al. 2018. Annexin A9 promotes invasion and metastasis of colorectal cancer and predicts poor prognosis. *Int. J. Mol. Med.* 41: 2185-2192.
4. Li, Z., et al. 2018. miR-16 inhibits hyperoxia-induced cell apoptosis in human alveolar epithelial cells. *Mol. Med. Rep.* 17: 5950-5957.

## 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](http://www.scbt.com) for detailed protocols and support products.