

# SP-A (N-19): sc-7700

## 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.

## CHROMOSOMAL LOCATIONS

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

## SOURCE

SP-A (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of SP-A 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-7700 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

SP-A (N-19) 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); may be cross-reactive with LOC387911 and CTRP9. SP-A (N-19) is also recommended for detection of SP-A1 and SP-A2 in additional species, including canine, bovine and porcine.

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.

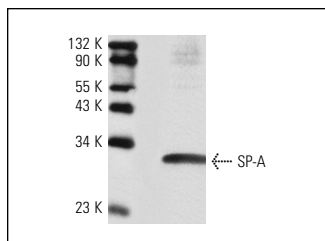
## STORAGE

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 (N-19): sc-7700. Western blot analysis of SP-A expression in mouse lung extract.

## SELECT PRODUCT CITATIONS

1. Patrone, C., et al. 2003. Regulation of postnatal lung development and homeostasis by estrogen receptor  $\beta$ . *Mol. Cell. Biol.* 23: 8542-8552.
2. Henson, M.C., et al. 2004. Leptin receptor expression in fetal lung increases in late gestation in the baboon: a model for human pregnancy. *Reproduction* 127: 87-94.
3. Lappi-Blanco, E., et al. 2004. Laminin-5  $\gamma$ 2 chain in cryptogenic organizing pneumonia and idiopathic pulmonary fibrosis. *Am. J. Respir. Crit. Care Med.* 169: 27-33.
4. Wang, Z., et al. 2005. Inhibition of surfactant activity by *Pneumocystis carinii* organisms and components *in vitro*. *Am. J. Physiol. Lung Cell. Mol. Physiol.* 288: 1124-1131.
5. Zhengdong, Wang., et al. 2005. Inhibition of surfactant activity by *Pneumocystis carinii* organisms and components *in vitro*. *Am. J. Physiol.* 288: 1124-1131.
6. Berg, T., et al. 2006. Ectopic expression of C/EBP $\alpha$  in the lung epithelium disrupts late lung development. *Am. J. Physiol. Lung Cell. Mol. Physiol.* 291: L683-L693.
7. Matsuzaki, T., et al. 2009. Immunohistochemical localization of the aquaporins AQP1, AQP3, AQP4, and AQP5 in the mouse respiratory system. *Acta Histochem. Cytochem.* 42: 159-169.
8. Romání-Pérez, M., et al. 2013. Pulmonary GLP-1 receptor increases at birth and exogenous GLP-1 receptor agonists augmented surfactant-protein levels in litters from normal and nitrofen-treated pregnant rats. *Endocrinology* 154: 1144-1155.


 MONOS  
Satisfation  
Guaranteed

Try **SP-A (6F10): sc-80621**, our highly recommended monoclonal alternative to SP-A (N-19).