SANTA CRUZ BIOTECHNOLOGY, INC.

SP-C (H-8): sc-518029

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.

CHROMOSOMAL LOCATION

Genetic locus: SFTPC (human) mapping to 8p21.3.

SOURCE

SP-C (H-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 121-146 near the C-terminus of SP-C of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

SP-C (H-8) is available conjugated to agarose (sc-518029 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-518029 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-518029 PE), fluorescein (sc-518029 FITC), Alexa Fluor® 488 (sc-518029 AF488), Alexa Fluor® 546 (sc-518029 AF546), Alexa Fluor® 594 (sc-518029 AF594) or Alexa Fluor® 647 (sc-518029 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-518029 AF680) or Alexa Fluor® 790 (sc-518029 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

SP-C (H-8) is recommended for detection of SP-C precursor of human origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for SP-C siRNA (h): sc-36539, SP-C shRNA Plasmid (h): sc-36539-SH and SP-C shRNA (h) Lentiviral Particles: sc-36539-V.

Molecular Weight of SP-C precursor: 21 kDa.

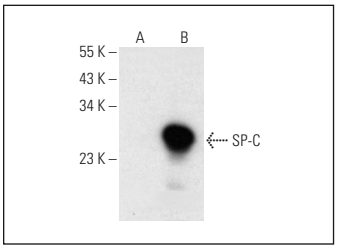
Molecular Weight of mature SP-C: 4-11 kDa.

Positive Controls: human SP-C transfected HEK293T whole cell lysate or human SP-C transfected 293T whole cell lysate.

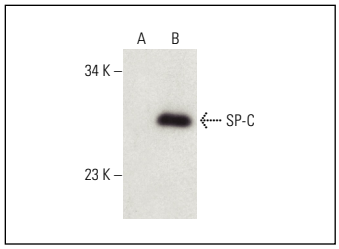
STORAGE

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

DATA



SP-C (H-8): sc-518029. Western blot analysis of SP-C expression in non-transfected (**A**) and human SP-C transfected (**B**) HEK293T whole cell lysates.



SP-C (H-8): sc-518029. Western blot analysis of SP-C expression in non-transfected (**A**) and human SP-C transfected (**B**) 293T whole cell lysates. Detection reagent used: m-IgGκ BP-HRP: sc-516102.

SELECT PRODUCT CITATIONS

1. Li, L., et al. 2019. Mesenchymal stem cells with downregulated Hippo signaling attenuate lung injury in mice with lipopolysaccharide-induced acute respiratory distress syndrome. Int. J. Mol. Med. 43: 1241-1252.
2. Gelfand, C.A., et al. 2020. Inhaled vitamin A is more effective than intramuscular dosing in mitigating hyperoxia-induced lung injury in a neonatal rat model of bronchopulmonary dysplasia. Am. J. Physiol. Lung Cell. Mol. Physiol. 319: L576-L584.
3. Yang, L., et al. 2020. Small GTPase RAB6 deficiency promotes alveolar progenitor cell renewal and attenuates PM2.5-induced lung injury and fibrosis. Cell Death Dis. 11: 827.
4. Huang, J., 2020. SARS-CoV-2 infection of pluripotent stem cell-derived human lung alveolar type 2 cells elicits a rapid epithelial-intrinsic inflammatory response. Cell Stem Cell 27: 962-973.e7.
5. Alysandratos, K.D., et al. 2021. Patient-specific iPSCs carrying an SFTPC mutation reveal the intrinsic alveolar epithelial dysfunction at the inception of interstitial lung disease. Cell Rep. 36: 109636.
6. Ma, B., et al. 2021. CHI3L1 regulates PD-L1 and anti-CHI3L1-PD-1 antibody elicits synergistic antitumor responses. J. Clin. Invest. 131: e137750.
7. Scaffa, A., et al. 2021. Single-cell transcriptomics reveals lasting changes in the lung cellular landscape into adulthood after neonatal hyperoxic exposure. Redox Biol. 48: 102091.
8. Ma, B., et al. 2021. CHI3L1 regulates PD-L1 and anti-CHI3L1-PD-1 antibody elicits synergistic antitumor responses. J. Clin. Invest. 131: e137750.
9. Sauler, M., et al. 2022. Characterization of the COPD alveolar niche using single-cell RNA sequencing. Nat. Commun. 13: 494.

RESEARCH USE

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