

# PLUNC (C-5): sc-398376

## BACKGROUND

The upper respiratory tract is the main place of entry for pathogens to invade the body, and early recognition of bacterial products in this region is crucial for host defense. Palate lung nasal epithelial clone PLUNC (or LUNX) is an airway specific secretory protein that is expressed in epithelial tissues and submucosal glands of the oral cavity and upper respiratory tract of humans, mice, rats and cows. PLUNC binds to lipopolysaccharide (LPS) in nasal lavage fluid (NLF) which points to its role in the inflammatory response of the upper airways after exposure to irritants. Decreased levels of PLUNC occur in the NLF of smokers and people who have been exposed to reactive epoxy chemicals, indicating that long-term exposure to airway irritants impairs the production of PLUNC in the upper respiratory tract. Abnormal expression of PLUNC may influence susceptibility to nasopharyngeal carcinoma in the Chinese population.

## REFERENCES

1. Bingle, C.D. and Craven, C.J. 2002. PLUNC: a novel family of candidate host defence proteins expressed in the upper airways and nasopharynx. *Hum. Mol. Genet.* 11: 937-943.
2. Ghafouri, B., et al. 2003. PLUNC (palate, lung and nasal epithelial clone) proteins in human nasal lavage fluid. *Biochem. Soc. Trans.* 31: 810-814.
3. Campos, M.A., et al. 2004. Purification and characterization of PLUNC from human tracheobronchial secretions. *Am. J. Respir. Cell Mol. Biol.* 30: 184-192.
4. Da Lee, R., et al. 2004. Differential gene profiles in developing embryo and fetus after in utero exposure to ethanol. *J. Toxicol. Environ. Health A* 67: 2073-2084.
5. Ghafouri, B., et al. 2004. PLUNC in human nasal lavage fluid: multiple isoforms that bind to lipopolysaccharide. *Biochim. Biophys. Acta* 1699: 57-63.
6. Casado, B., et al. 2005. Identification of human nasal mucous proteins using proteomics. *Proteomics* 5: 2949-2959.
7. Geetha, C., et al. 2005. Design and validation of anti-inflammatory peptides from human parotid secretory protein. *J. Dent. Res.* 84: 149-153.

## CHROMOSOMAL LOCATION

Genetic locus: BPIFA1 (human) mapping to 20q11.21; Bpifa1 (mouse) mapping to 2 H1.

## SOURCE

PLUNC (C-5) is a mouse monoclonal antibody raised against amino acids 41-80 mapping near the N-terminus of PLUNC of mouse origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## RESEARCH USE

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

## APPLICATIONS

PLUNC (C-5) is recommended for detection of PLUNC of mouse, rat and 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 PLUNC siRNA (m): sc-61368, PLUNC shRNA Plasmid (m): sc-61368-SH and PLUNC shRNA (m) Lentiviral Particles: sc-61368-V.

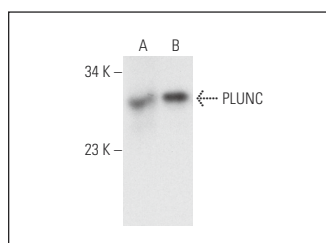
Molecular Weight of PLUNC: 25 kDa.

Positive Controls: mouse thymus extract: sc-2406 or mouse lung extract: sc-2390.

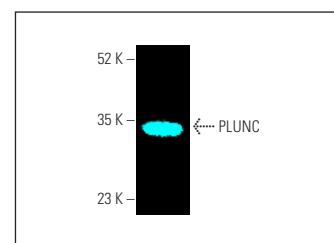
## RECOMMENDED SUPPORT REAGENTS

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.

## DATA



PLUNC (C-5): sc-398376. Western blot analysis of PLUNC expression in mouse thymus (A) and mouse lung (B) tissue extracts.



PLUNC (C-5): sc-398376. Fluorescent western blot analysis of PLUNC expression in mouse lung tissue extract. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 647: sc-516179.

## SELECT PRODUCT CITATIONS

1. Juaiti, M., et al. 2024. Integrated bioinformatics analysis and experimental animal models identify a robust biomarker and its correlation with the immune microenvironment in pulmonary arterial hypertension. *Heliyon* 10: e29587.

## STORAGE

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