

Mouse SFTPD / SP-D / SFTP4 Protein (His Tag)

Catalog Number: 50205-M08H



Sino Biological Inc.
Biological Solution Specialist

General Information

Gene Name Synonym:

COLEC7; PSP-D; SFTP4; SP-D; AI573415; Sftp4; SP-D

Protein Construction:

A DNA sequence encoding the mouse SFTPD (NP_033186.1) precursor (Met 1-Phe 374) was expressed with a C-terminal polyhistidine tag.

Source: Mouse

Expression Host: Human Cells

QC Testing

Purity: > 97 % as determined by SDS-PAGE

Endotoxin:

< 1.0 EU per µg of the protein as determined by the LAL method

Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

Predicted N terminal: Ala 20

Molecular Mass:

The secreted recombinant mouse SFTPD consists of 366 amino acids and has a calculated molecular mass of 37.2 kDa. As a result of glycosylation, the recombinant protein migrates as an approximately 45 kDa protein in SDS-PAGE under reducing conditions.

Formulation:

Lyophilized from sterile PBS, pH 7.4

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Storage:

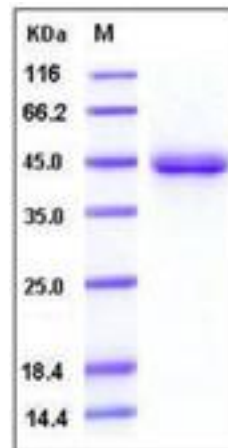
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

Surfactant pulmonary-associated protein D, also known as SFTPD and SP-D, is a member of the collectin family of C-type lectins that is synthesized in many tissues including respiratory epithelial cells in the lung, and contains one C-type lectin domain and one collagen-like domain. The polymorphic variation in the N-terminal domain of the SP-D molecule influences oligomerization, function, and the concentration of the molecule in serum. SFTPD is produced primarily by alveolar type II cells and nonciliated bronchiolar cells in the lung and is constitutively secreted into the alveoli where it influences surfactant homeostasis, effector cell functions, and host defense. It is upregulated in a variety of inflammatory and infectious conditions including Pneumocystis pneumonia and asthma. SFTPD is humoral molecules of the innate immune system, and is considered a functional candidate in chronic periodontitis. Besides it is involved in the development of acute and chronic inflammation of the lung. Several human lung diseases are characterized by decreased levels of bronchoalveolar SFTPD. Thus, recombinant SFTPD has been proposed as a therapeutical option for cystic fibrosis, neonatal lung disease and smoking-induced emphysema. Furthermore, SFTPD serum levels can be used as disease activity markers for interstitial lung diseases.

References

- 1.Leth-Larsen R, *et al.* (2005) A common polymorphism in the SFTPD gene influences assembly, function, and concentration of surfactant protein D. *J Immunol.* 174(3): 1532-8.
- 2.Moran AP, *et al.* (2005) Role of surfactant protein D (SP-D) in innate immunity in the gastric mucosa: evidence of interaction with Helicobacter pylori lipopolysaccharide. *J Endotoxin Res.* 11(6): 357-62.
- 3.Hartl D, *et al.* (2006) Surfactant protein D in human lung diseases. *Eur J Clin Invest.* 36(6): 423-35.

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