

SP-D Protein, Human, Recombinant (His)

General Information

Synonyms:	Lung Surfactant Protein D;SFTP4;COLEC7;SFTPD;PSP-D;SP-D;Pulmonary Surfactant-Associated Protein D;PSPD;Collectin-7
Protein Construction:	Ala21-Phe375
Species:	Human
Expression Host:	HEK293 Cells
Accession:	AAH22318.1
Molecular Weight:	45 KDa (reducing condition)
AA Sequence:	Ala21-Phe375

QC Testing

Biological Activity:	Activity has not been tested. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	Greater than 95% as determined by reducing SDS-PAGE. (QC verified)
Endotoxin:	< 0.1 ng/μg (1 EU/μg) as determined by LAL test.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing 20 mM PB, 150 mM NaCl, pH 7.2.

Preparation and Storage

Reconstitution:

Reconstitute the lyophilized protein in distilled water. The product concentration should not be less than 100 μg/ml. Before opening, centrifuge the tube to collect powder at the bottom. After adding the reconstitution buffer, avoid vortexing or pipetting for mixing.

Stability & Storage:

Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Surfactant Pulmonary-Associated Protein D (SP-D) is a 43 kDa member of the collectin family of innate immune modulators. Its principal components consist of a collagen-like region and a C-terminal carbohydrate recognition domain (CRD), a structure that places it in a subset of pattern recognition proteins termed defense collagens. SP-D is constitutively secreted by alveolar lining cells and epithelium associated with tubular structures and induced in

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cardiac smooth muscle and endothelial cells. It binds both secreted and transmembrane proteins that transduce its function. It binds human neutrophil defensins, modulating influenza anti-viral defense. It binds MD-2/LY96, a secreted protein that cooperates with Toll-like receptors (TLRs) in the response of macrophages to bacterial lipopolysaccharides (LPS) or cell wall components. It also binds macrophage CD14 and TLRs directly, blocking binding of LPS and down-regulating TNF- α secretion. SP-D binding of both SIRP α and the calreticulin/CD91 complex on macrophages allows for a graded response to environmental challenge.

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