Recombinant SFTA1 protein (His tag)

Catalog Number	543089
Synonyms	PSP-A; PSPA; SP-A; SP-A1; 35 kDa pulmonary surfactant-associated protein; Alveolar proteinosis protein; Collectin-4
Species	Human
Expression System	E. coli
Accession	Q8IWL2
Molecular Weight	Predictes a molecular mass of 24.75 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 25 kDa band.

Product Information

Sequence Region	32-248
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>89%, by SDS-PAGE with Coomassie Brilliant Blue staining.
Endotoxin	Not tested.
Activity	Not tested.
Stability	Samples are stable for up to twelve months from date of receipt at -70℃
Protein Construction	DNA encoding 32-248 aa (Q8IWL2) were fused with 6His tag.

Storage & Handling

Reconstitution	Reconstitute at 0.25 μg/μl in sterile water for short-term storage. Reconstitution with 50% glycerol solution is recommended for longer term storage (see Stability and Storage for more details). If a different concentration is needed for your purposes please adjust the reconstitution volume as required (please note: the ion concentration of the final solution will vary according to the volume used). Note: Centrifuge vial before opening. When reconstituting, gently pipet and wash down the sides of the vial to ensure full recovery of the protein into solution.
Storage	Store it under sterile conditions at -20℃ to -80℃. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.
Shipping	In general, recombinant proteins are provided as lyophilized powder which are shipped at ambient temperature. Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice unless customers require otherwise.

Description

Description	Recombinant Human Pulmonary Surfactant-Associated Protein A1 (PSP-A/SP-A1) Fragment (aa 32-248) - A high-purity protein fragment containing the complete C-type lectin domain (aa 132-248), ideal for studying pulmonary surfactant function, pathogen recognition, and host defense mechanisms in respiratory research. Pulmonary Surfactant-Associated Protein A1 (SFTPA1) is a crucial collectin protein secreted into the alveolar spaces of the human lung. In the presence of calcium ions, it binds to surfactant phospholipids to reduce surface tension at the air-liquid interface, which is essential for normal respiration. The protein plays a vital role in innate immunity by recognizing, binding, and opsonizing pathogens such as Mycobacterium tuberculosis to enhance their elimination by alveolar macrophages. Additionally, it serves as a receptor for Mycoplasma pneumoniae CARDS toxin, with reduced SFTPA1 expression correlating with decreased toxin binding and cellular vacuolization. The protein is localized to secreted extracellular spaces, including the extracellular matrix and surface film, where it performs its critical functions in lung homeostasis and defense.