

Surfactant Associated Protein D (SPD) Active Protein | SPD active protein

Active Surfactant Associated Protein D (SPD)

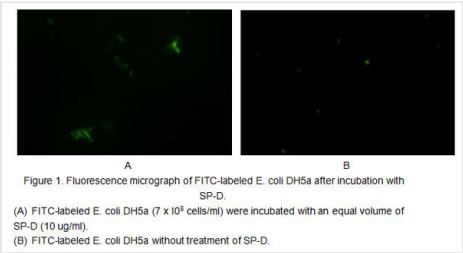
CATALOG # AAA161827	HOST 293F cell	APPLICATIONS Activity Assay, Cell Culture
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PRODUCT SYNONYMS

Surfactant Associated Protein D (SPD); Active Surfactant Associated Protein D (SPD); Surfactant Associated Protein D; SPD active protein (eukaryotic; 293F cell); Human; SFTPD; COLEC7; PSP-D; SFTP4; SP-D; Pulmonary Surfactant Protein D; Collectin-7; Lung surfactant protein D4; SPD active protein

PRODUCT SPECIFICATIONS

Host	293F cell
Purity/Purification	Greater than 90% by SDS-PAGE
Form/Format	Freeze-dried powder; PBS, pH7.4, containing 0.01% SKL, 1mM DTT, 5% Trehalose and Proclin300.
Sequence	Ala21~Phe375
Applicable Applications for SPD active protein	Activity Assay, Cell Culture
Species	Human
Expression System	Eukaryotic expression
Tag	N-terminal His Tag
Endotoxin Level	<1.0EU per 1ug (determined by the LAL method)
Isoelectric Point	6.5
Research Area	Infection immunity, Pulmonology
Preparation and Storage	Store at 2-8 degree C for one month, -80 degree C for 12 months

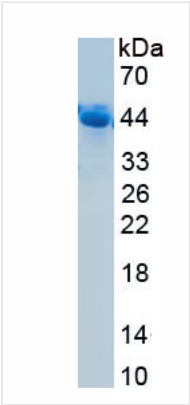


Bioactivity

SP-D (surfactant protein-D) is a 43 kDa member of the collectin family of innate immune modulators. It is constitutively secreted by alveolar lining cells and epithelium associated with tubular structures. Its principal components consist of a collagen-like region and a C-terminal carbohydrate recognition domain (CRD), a structure that further places it in a subset of an expanded group of proteins termed defense collagens. SP-D is known to bind both SIRP alpha and the calreticulin/CD91 complex on macrophages. When the ratio of antigen/pathogen to available CRDs is low, antigen can be bound without occupying all available CRDs. The free CRDs will bind to SIRP alpha, generating a signal that downmodulates the inflammatory response. When virtually all CRDs are occupied by ligand, however, free CRDs are not available for SIRP alpha binding. The activity of the recombinant human SPD was measured by its ability to bind fluorescein-conjugated E. coli bioparticles. The rhSPD was diluted to 10 ug/ml in assay buffer of 20 mM Tris, 137 mM NaCl, 1 mM CaCl₂, pH7.4 and fluorescein-conjugated E. coli was diluted to 7*10⁸ cells/ml. Equal volume of 10 ug/ml rhSPD and fluorescein-conjugated E. coli were mixed and incubated at room temperature for 1h. 10 ul mixture was took onto the slide and observed under the fluorescence microscopy. The result was shown in figure 1, the rhSPD could bind fluorescein-conjugated E. coli bioparticles.

SDS-PAGE

Figure. SDS-PAGE



ADDITIONAL INFORMATION

Product Categories/Family for SPD active protein	Active proteins
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NCBI AND UNIPROT INFORMATION

NCBI GI #	61699226
NCBI GeneID	6441
NCBI Accession #	NP_003010.4
NCBI GenBank Nucleotide #	NM_003019.4
UniProt Accession #	P35247; Q5T0M3; Q6FH08; Q86YK9; Q8TCD8; Q9UCJ2; Q9UCJ3
Molecular Weight	37,728 Da
NCBI Official Full Name	pulmonary surfactant-associated protein D
NCBI Official Synonym Full Names	surfactant protein D
NCBI Official Symbol	SFTPD
NCBI Official Synonym Symbols	SP-D; PSP-D; SFTP4; COLEC7
NCBI Protein Information	pulmonary surfactant-associated protein D; collectin 7; collectin-7; lung surfactant protein D; pulmonary surfactant apoprotein; surfactant, pulmonary-associated protein D; surfactant-associated protein, pulmonary 4
UniProt Protein Name	Pulmonary surfactant-associated protein D
UniProt Gene Name	SFTPD
UniProt Synonym Gene Names	COLEC7; PSPD; SFTP4; PSP-D; SP-D
UniProt Entry Name	SFTPD_HUMAN

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

AAA Biotech | Tel: +1 (619) 604-9440 | Fax: +1 (619) 604-9441 | contact@aaabiotech.com

Online datasheet: <https://stage.aaabiotech.com/293f-cell-active-protein/surfactant-associated-protein-d-spd/161827>