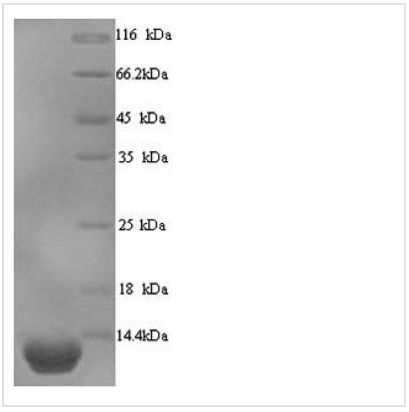
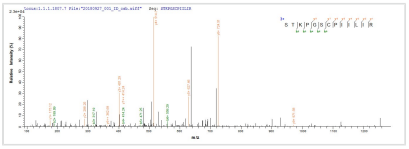
Recombinant Human Elafin (PI3)

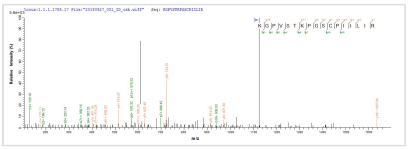
Product Code	CSB-YP017952HU
Relevance	Neutrophil and pancreatic elastase-specific inhibitor of skin. It may prevent elastase-mediated tissue proteolysis.
Abbreviation	Recombinant Human PI3 protein
Storage	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.
Uniprot No.	P19957
Alias	Elastase-specific inhibitor ;ESIPeptidase inhibitor 3 ;PI-3;Protease inhibitor WAP3Skin-derived antileukoproteinase ;SKALPWAP four-disulfide core domain protein 14
Product Type	Recombinant Protein
Immunogen Species	Homo sapiens (Human)
Purity	Greater than 90% as determined by SDS-PAGE.
Sequence	AQEPVKGPVSTKPGSCPIILIRCAMLNPPNRCLKDTDCPGIKKCCEGSCGMACFVPQ
Research Area	Signal Transduction
Source	Yeast
Target Names	PI3
Protein Names	Recommended name: Elafin Alternative name(s): Elastase-specific inhibitor Short name= ESI Peptidase inhibitor 3 Short name= PI-3 Protease inhibitor WAP3 Skin-derived antileukoproteinase Short name= SKALP WAP fo
Expression Region	61-117aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	N-terminal 6xHis-tagged
Mol. Weight	8.0kDa
Protein Length	Full Length of Mature Protein
Image	



(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.



Based on the SEQUEST from database of Yeast host and target protein, the LC-MS/MS Analysis result of CSB-YP017952HU could indicate that this peptide derived from Yeast-expressed Homo sapiens (Human) PI3.



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Description

The recombinant Human PI3 is a yeast-expressed (61-117aa) protein with N-terminal 6xHis tag. The purity is 90%+ measured by SDS-PAGE. The highly developed genetic system, ease of use, reduced time input, and costs have made Pichia Pastoris an attractive organism for the expression and production of recombinant proteins. So we choose the Yeast system to express this recombinant PI3 protein, which is able to carry specifically designed plasmids, and the plasmid used consists of restriction sites that can be used to insert the gene sequence of interest. Transformation of yeasts with the plasmid produces the desired protein and can be appropriately scaled up.

PI3, also called Elafin, is an endogenous serine protease inhibitor that constitutes the epithelial barrier against neutrophil elastase (NE) and protease 3 (PR3). It can reduce airway mucus hypersecretion and decrease inflammatory lung injury. In addition to having protease inhibitory activity, Elafin also exerts several functions such as anti-inflammation, antimicrobe, antiproliferation, immune modulation, vascular remodeling, and wound healing. It is downregulated in several inflammatory diseases, including acute respiratory distress syndrome, inflammatory bowel disease, and acute lung injury. Elafin is differentially expressed in several tumors. Enhanced Elafin expression is associated with the differentiation of esophageal cancer. While downregulation of Elafin is detected in ductal carcinoma in situ, invasion breast cancer, and invasion ovarian cancer.

Reconstitution

We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Please reconstitute protein in deionized sterile water to a concentration of 0.1-1.0 mg/mL.We recommend to add 5-50% of glycerol (final concentration) and aliquot for long-term storage at -20°C/-80°C. Our default final

	concentration of glycerol is 50%. Customers could use it as reference.
Shelf Life	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.