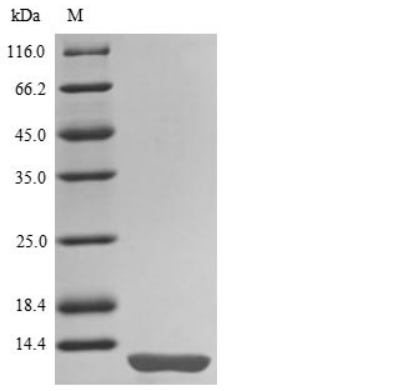
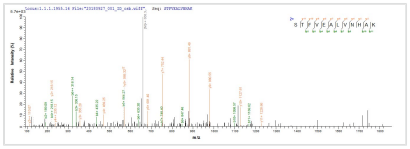
Recombinant Pig Saposin-B-Val (PSAP)

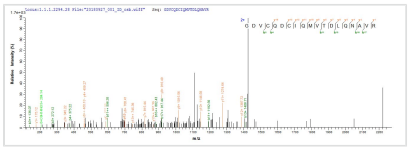
Product Code	CSB-YP018836PI
Abbreviation	Recombinant Pig PSAP protein
Storage	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.
Uniprot No.	P81405
Product Type	Recombinant Protein
Immunogen Species	Sus scrofa (Pig)
Purity	Greater than 90% as determined by SDS-PAGE.
Sequence	GDVCQDCIQMVTDLQNAVRTNSTFVEALVNHAKEECDRLGPGMADMCKNYIS QYSEIAIQMMMHMQPKDICGLVGFCEEV
Research Area	Metabolism
Source	Yeast
Target Names	PSAP
Protein Names	Recommended name: Saposin-B-Val Cleaved into the following chain: 1. Saposin-B Alternative name(s): Cerebroside sulfate activator Short name= CS-ACT Non-specific activator Sphingolipid activator protein 1 Short name= SAP-
Expression Region	1-80aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	N-terminal 6xHis-Flag-tagged
Mol. Weight	11.9 kDa
Protein Length	Full Length
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-YP018836PI could indicate that this peptide derived from Yeast-expressed Sus scrofa (Pig) PSAP.



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Description

Recombinant Pig Saposin-B-Val (PSAP) gets expressed in a yeast system, yielding a full-length protein with 80 amino acids. The protein carries an N-terminal 6xHis-Flag tag, which makes purification and detection more straightforward. SDS-PAGE analysis shows the product achieves greater than 90% purity, suggesting it meets high-quality standards for research work. This product is meant for research use only and should not be used for clinical or diagnostic purposes.

Saposin-B-Val appears to play a crucial role in breaking down sphingolipids—lipids that are involved in cell membrane structure and signaling pathways. It works as an activator for certain lysosomal enzymes, helping these enzymes break down lipids more effectively. Studying Saposin-B-Val may be important for understanding lysosomal storage disorders and how sphingolipid metabolism affects broader cellular processes.

Potential Applications

Note: The applications listed below are based on what we know about this protein's biological functions, published research, and experience from experts in the field. However, we haven't fully tested all of these applications ourselves yet. We'd recommend running some preliminary tests first to make sure they work for your specific research goals.

1. Protein-Protein Interaction Studies

The N-terminal 6xHis-Flag tag allows researchers to conduct pull-down assays and identify potential binding partners of pig saposin-B in controlled lab conditions. Scientists can use this recombinant protein as bait in co-immunoprecipitation experiments with pig tissue lysates or purified protein libraries. Having both His and Flag tags gives researchers options for detection and purification, which could help map out saposin-B interaction networks more thoroughly. These studies might uncover new regulatory mechanisms or functional partnerships that relate to sphingolipid metabolism research.

2. Comparative Structural and Functional Analysis

This pig-derived saposin-B variant offers a useful tool for comparing differences across species, particularly when studying human and other mammalian saposin-B proteins. The recombinant protein makes it possible to directly

compare biochemical properties like protein stability, folding characteristics, and basic physicochemical features between species. With its high purity (>90%), researchers can run biophysical analyses such as circular dichroism spectroscopy, dynamic light scattering, or analytical ultracentrifugation to characterize structural differences between pig and other mammalian variants.

3. Antibody Development and Validation

The purified recombinant pig saposin-B may work well as an immunogen for creating species-specific antibodies or as a standard for antibody characterization. The Flag tag makes detection and quantification in immunoassays relatively easy, which could be helpful for developing ELISA-based detection systems. Researchers working with pig models or porcine tissue samples would likely benefit from having well-characterized antibodies that have been validated against this recombinant standard. The protein can also help assess antibody specificity and cross-reactivity in comparative immunological studies.

4. In Vitro Biochemical Assay Development

This recombinant protein provides a standardized reagent for developing and fine-tuning biochemical assays related to saposin-B function. The consistent yeast expression system and high purity levels make it appropriate for establishing reproducible experimental protocols. Researchers can use this protein to develop quantitative assays for studying protein stability under different conditions, pH sensitivity, or thermal denaturation profiles. The His-tag makes purification simpler and allows for straightforward concentration adjustments that are often needed for dose-response studies and assay optimization.

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.