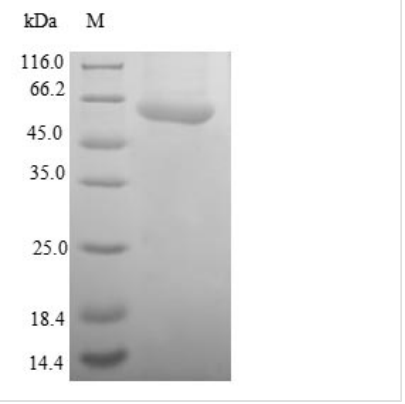
Recombinant Human SUMO-activating enzyme subunit 1 (SAE1)

Product Code	CSB-EP883359HU
Relevance	The heterodimer acts as an E1 ligase for SUMO1, SUMO2, SUMO3, and probably SUMO4. It mediates ATP-dependent activation of SUMO proteins followed by formation of a thioester bond between a SUMO protein and a conserved active site cysteine residue on UBA2/SAE2.
Abbreviation	Recombinant Human SAE1 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.	Q9UBE0
Alias	Ubiquitin-like 1-activating enzyme E1A
Product Type	Recombinant Protein
Immunogen Species	Homo sapiens (Human)
Purity	Greater than 90% as determined by SDS-PAGE.
Sequence	MVEKEEAGGGISEEEAAQYDRQIRLWGLEAQKRLRASRVLLVGLKGLGAEIAK NLILAGVKGLTMLDHEQVTPEDPGAQFLIRTGSVGRNRAEASLERAQNLNPMV DVKVDTEDIEKKPESFFTQFDAVCLTCCSRDVIVKVDQICHKNSIKFFTGDVFG YHGYTFANLGEHEFVEEKTKVAKVSQGVEDGPDTKRAKLDSSETTMVKKKVV FCPVKEALEVDWSSEKAKAALKRTTSDYFLLQVLLKFRTDKGRDPSSDTYEED SELLLQIRNDVLDSLGISPDLLPEDFVRYCFSEMAPVCAVVGGILAQEIVKALSQ RDPPHNNFFFFDGMKGNGIVECLGPK
Research Area	Cell Biology
Source	E.coli
Target Names	SAE1
Protein Names	Recommended name: SUMO-activating enzyme subunit 1 Alternative name(s): Ubiquitin-like 1-activating enzyme E1A
Expression Region	1-346aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	N-terminal GST-tagged
Mol. Weight	65.4kDa
Protein Length	Full Length
Image	



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

Description

Amino acids 1-346 constitute the expression domain of recombinant Human SAE1. This SAE1 protein is theoretically predicted to have a molecular weight of 65.4 kDa. This protein is generated in a e.coli-based system. The N-terminal GST tag was fused into the coding gene segment of SAE1, making it easier to detect and purify the SAE1 recombinant protein in the later stages of expression and purification.

The human SUMO-activating enzyme subunit 1 (SAE1) is a critical component in the SUMOylation pathway, an essential post-translational modification process. SAE1 forms a heterodimer with SAE2 to activate the Small Ubiquitin-like Modifier (SUMO) proteins. This activation initiates the attachment of SUMO to target proteins, influencing their cellular localization, interactions, and functions. SAE1's main function lies in catalyzing the adenylation and subsequent conjugation of SUMO to target proteins. Research areas involving SAE1 encompass investigations into cellular processes like DNA repair, transcriptional regulation, and response to cellular stress. Understanding SAE1's role in SUMOylation provides insights into the complex regulatory mechanisms governing diverse cellular functions and potential implications in diseases like cancer and neurodegeneration.

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

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