Data Sheet (Cat.No.TMPY-03441)

TargetMol

SAE1 Protein, Human, Recombinant

General Information

Synonyms:	SUA1;SUMO1 activating enzyme subunit 1;HSPC140;UBLE1A;AOS1
Protein Construction:	A DNA sequence encoding the human SAE1 (Q9UBE0) (Met1-Lys346) was expressed and purified. Predicted N terminal: Gly
Species:	Human
Expression Host:	Baculovirus Insect Cells
Accession:	Q9UBE0
Molecular Weight:	38.6 kDa (predicted); 39 kDa (reducing conditions)

QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 95 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing 20 mM Tris, 500 mM Nacl, pH 7.4, 10% glycerol. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

Reconstituted with sterile deionized water to 0.25 mg/mL. Reconstitution conditions may vary depending on the lot.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

SAE1 belongs to the ubiquitin-activating E1 family. It is a heterodimer that acts as a E1 ligase for SUMO1, SUMO2, SUMO3, and probably SUMO4. It functions as a UBLI E1 ligase mediating the ATP-dependent activation of UBL1. SAE1 binds with UBLE1A and UBLE1B to form a heterodimer which can bind UBL1. SAE1 also regulates ATP-dependent activation of SUMO proteins and formation of a thioester with a conserved cysteine residue on SAE2. SAE1 and UBA2 form a heterodimer that functions as a SUMO-activating enzyme for the sumoylation of proteins.

Reference

Gong L, et al. (1999) Molecular cloning and characterization of human AOS1 and UBA2, components of the sentrin-activating enzyme complex. FEBS Lett. 448(1):185-9.
Lois LM, et al. (2005) Structures of the SUMO E1 provide mechanistic insights into SUMO activation and E2 recruitment to EEMBO J. 24(3):439-51.
Tatham MH, et al. (2001) Polymeric chains of SUMO-2 and SUMO-3 are conjugated to protein substrates by SAE1/SAE2 and Ubc9. J Biol Chem. 276(38):35368-74.

Tel:781-999-4286 E_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481