# Recombinant SAE1 protein (His tag)

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| **Catalog Number** | 548438 |
| **Synonyms** | Ubiquitin-like 1-activating enzyme E1A |
| **Species** | Human |
| **Expression System** | E. coli |
| **Accession** | Q9UBE0 |
| **Molecular Weight** | Predictes a molecular mass of 40.11 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 44 kDa band. |

## Product Information

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| **Sequence Region** | 1-346 |
| **Form** | Lyophilized powder |
| **Formulation** | Lyophilized from sterile PBS, pH 7.4 |
| **Purity** | >90%, by SDS-PAGE with Coomassie Brilliant Blue staining. |
| **Endotoxin** | Not tested. |
| **Activity** | Not tested. |
| **Stability** | Samples are stable for up to twelve months from date of receipt at -70℃ |
| **Protein Construction** | DNA encoding 1-346 aa (Q9UBE0) were fused with 6His tag. |

## Storage & Handling

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| **Reconstitution** | Reconstitute at 0.25 μg/μl in sterile water for short-term storage. Reconstitution with 50% glycerol solution is recommended for longer term storage (see Stability and Storage for more details). If a different concentration is needed for your purposes please adjust the reconstitution volume as required (please note: the ion concentration of the final solution will vary according to the volume used). Note: Centrifuge vial before opening. When reconstituting, gently pipet and wash down the sides of the vial to ensure full recovery of the protein into solution. |
| **Storage** | Store it under sterile conditions at -20℃ to -80℃. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles. |
| **Shipping** | In general, recombinant proteins are provided as lyophilized powder which are shipped at ambient temperature.<br>Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice unless customers require otherwise. |

## Description

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| **Description** | Recombinant Human SUMO-activating enzyme subunit 1 (SAE1) fragment (residues 1-346) is a high-quality, stable protein designed for structural and biochemical studies. This fragment, computationally optimized for solubility and stability, supports research into SUMOylation pathways and E1 ligase mechanisms.<br>SUMO-activating enzyme subunit 1 (SAE1), in heterodimeric form, functions as an E1 ligase essential for the activation of SUMO proteins (SUMO1, SUMO2, SUMO3, and likely SUMO4). It catalyzes ATP-dependent SUMO activation and facilitates thioester bond formation with UBA2/SAE2, initiating the SUMOylation cascade critical for post-translational modifications involved in cellular regulation. Located in the nucleus, SAE1 plays a key role in processes such as protein targeting, transcriptional control, and DNA repair, as supported by extensive experimental evidence (e.g., PubMed:10187858, 9920803). |