

UBA1 Protein, Human (sf9, His-GST)

Cat. No.:	HY-P74485
Synonyms:	Ubiquitin-like modifier-activating enzyme 1; Protein A1S9; UBA1; A1S9T; UBE1
Species:	Human
Source:	Sf9 insect cells
Accession:	P22314 (S2-R1058)
Gene ID:	7317
Molecular Weight:	Approximately 130 kDa

PROPERTIES

Biological Activity	The enzyme activity of this recombinant protein is testing in progress, we cannot offer a guarantee yet.
Appearance	Lyophilized powder
Formulation	Lyophilized from a 0.2 µm filtered solution of 50 mM Tris, 100 mM NaCl, pH 7.4, 10% Glycerol, 0.5 mM GSH. Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH ₂ O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background

The UBA1 protein plays a pivotal role in cellular processes as it catalyzes the initial step in ubiquitin conjugation, marking cellular proteins for degradation through the ubiquitin-proteasome system, as documented in several studies. This enzymatic activity involves the activation of ubiquitin by initially adenylating its C-terminal glycine residue with ATP. Subsequently, UBA1 links this activated ubiquitin to the side chain of a cysteine residue in E1, forming a ubiquitin-E1 thioester and releasing free AMP. The indispensable function of UBA1 extends to critical cellular processes, including the formation of radiation-induced foci, timely DNA repair, and the response to replication stress. Furthermore, UBA1 plays a role in promoting the recruitment of TP53BP1 and BRCA1 at DNA damage sites, emphasizing its significance in orchestrating DNA repair pathways and maintaining genomic integrity.

Caution: Product has not been fully validated for medical applications. For research use only.

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