Human UBE1 / UBA1 Protein (His & GST Tag)

Catalog Number: **11990-H20B**

General Information

Gene Name Synonym:

A1S9; A1S9T; A1ST; AMCX1; CFAP124; CTD-2522E6.1; GXP1; POC20; SMAX2; UBA1A; UBE1; UBE1X

Protein Construction:

A DNA sequence encoding the human UBA1 (NP_003325.2) (Ser 2-Arg 1058) was fused with the N-terminal polyhistidine-tagged GST tag at the N-terminus.

Source: Human

Expression Host: Baculovirus-Insect Cells

QC Testing

Purity: > 90 % as determined by SDS-PAGE

Endotoxin:

< 1.0 EU per μg of the protein as determined by the LAL method

Stability:

Samples are stable for up to twelve months from date of receipt at -70 ℃

Predicted N terminal: Met

Molecular Mass:

The recombinant human UBA1/GST chimera consists of 1294 amino acids and has a calculated molecular mass of 146 KDa. It migrates as an approximately 130 KDa band in SDS-PAGE under reducing conditions.

Formulation:

Lyophilized from sterile 50mM Tris, 100mM NaCl, pH 7.4, 10% gly, 0.5mM GSH

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Storage:

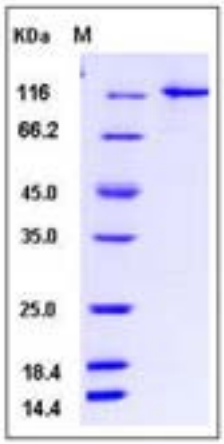
Store it under sterile conditions at -20℃ to -80℃ upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

UBE1, also known as UBA1, belongs to the ubiquitin-activating E1 family. UBE1 gene complements an X-linked mouse temperature-sensitive defect in DNA synthesis, and thus may function in DNA repair. It is part of a gene cluster on chromosome Xp11.23. UBE1 catalyzes the first step in ubiquitin conjugation to mark cellular proteins for degradation. It also catalyzes the first step in ubiquitin conjugation to mark cellular proteins for degradation by first adenylating its C-terminal glycine residue with ATP, and thereafter linking this residue to the side chain of a cysteine residue in E1, yielding an ubiquitin-E1 thioester and free AMP. Defects in UBA1 can cause spinal muscular atrophy X-linked type 2 (SMAX2), also known as X-linked lethal infantile spinal muscular atrophy, distal X-linked arthrogryposis multiplex congenita or X-linked arthrogryposis type 1 (AMCX1). Spinal muscular atrophy refers to a group of neuromuscular disorders characterized by degeneration of the anterior horn cells of the spinal cord, leading to symmetrical muscle weakness and atrophy. SMAX2 is a lethal infantile form presenting with hypotonia, areflexia, and multiple congenital contractures.

References

1.Jin J, *et al*. (2007) Dual E1 activation systems for ubiquitin differentially regulate E2 enzyme charging. Nature. 447(7148):1135-8. 2.Xia T, *et al*. (2007) Chaperone-dependent E3 ligase CHIP ubiquitinates and mediates proteasomal degradation of soluble guanylyl cyclase. Am J Physiol Heart Circ Physiol. 293(5):H3080-7. 3.Pridgeon JW, *et al*. (2009) Proteomic analysis reveals Hrs UIM-mediated ubiquitin signaling in multiple cellular processes. FEBS J. 276(1):118-31.