abcam

Product datasheet

Recombinant Human ULK1 protein ab95322

2 References 1 Image

Description

Product name	Recombinant Human ULK1 protein
Purity	> 40 % SDS-PAGE.
Expression system	HEK 293 cells
Accession	O75385
Protein length	Full length protein
Animal free	No
Nature	Recombinant
Species	Human
Predicted molecular weight	113 kDa including tags
Amino acids	2 to 1050
Tags	DDDDK tag N-Terminus

Specifications

Our **Abpromise guarantee** covers the use of **ab95322** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Applications	SDS-PAGE
Form	Liquid

Preparation and Storage

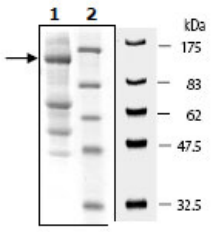
Stability and Storage	Shipped on Dry Ice. Upon delivery aliquot. Store at -80°C. Avoid freeze / thaw cycle. pH: 7.50 Constituents: 0.0462% (R*,R*)-1,4-Dimercaptobutan-2,3-diol, 0.395% Tris HCl, 0.05% Tween, 20% Glycerol (glycerin, glycerine), 0.58% Sodium chloride

General Info

Function	Serine/threonine-protein kinase involved in autophagy in response to starvation. Acts upstream of

	phosphatidylinositol 3-kinase PIK3C3 to regulate the formation of autophagophores, the precursors of autophagosomes. Part of regulatory feedback loops in autophagy: acts both as a downstream effector and negative regulator of mammalian target of rapamycin complex 1 (mTORC1) via interaction with RPTOR. Activated via phosphorylation by AMPK and also acts as a regulator of AMPK by mediating phosphorylation of AMPK subunits PRKAA1, PRKAB2 and PRKAG1, leading to negatively regulate AMPK activity. May phosphorylate ATG13/KIAA0652 and RPTOR; however such data need additional evidences. Plays a role early in neuronal differentiation and is required for granule cell axon formation. May also phosphorylate SESN2 and SQSTM1 to regulate autophagy (PubMed:25040165).
Tissue specificity	Ubiquitously expressed. Detected in the following adult tissues: skeletal muscle, heart, pancreas, brain, placenta, liver, kidney, and lung.
Sequence similarities	Belongs to the protein kinase superfamily. Ser/Thr protein kinase family. APG1/unc-51/ULK1 subfamily. Contains 1 protein kinase domain.
Post-translational modifications	Autophosphorylated. Phosphorylated under nutrient-rich conditions; dephosphorylated during starvation or following treatment with rapamycin. Under nutrient sufficiency, phosphorylated by MTOR/mTOR, disrupting the interaction with AMPK and preventing activation of ULK1 (By similarity). In response to nutrient limitation, phosphorylated and activated by AMPK, leading to activate autophagy.
Cellular localization	Cytoplasm, cytosol. Preautophagosomal structure. Under starvation conditions, is localized to puncate structures primarily representing the isolation membrane that sequesters a portion of the cytoplasm resulting in the formation of an autophagosome.

Images



SDS-PAGE - Recombinant Human ULK1 protein (ab95322)

10% SDS-PAGE analysis

Lane 1: 3 µg ab95322

Lane 2: Molecular Weight Markers

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