ULK1 Blocking Peptide – The purity is >90%,tested by HPLC and MS. Purity

PRODUCT OVERVIEW

Product Name	ULK1, Blocking Peptide
Full Product Name	ULK1 Blocking Peptide
Product Gene Name	ULK1 blocking peptide
Product Synonym Names	ATG 1; ATG1; ATG1 autophagy related 1 homolog; ATG1A; Autophagy related protein 1 homolog; Autophagy-related protein 1 homolog; FLJ38455; FLJ46475; hATG1; KIAA0722; Serine/threonine protein kinase ULK1; Serine/threonine protein kinase Unc51.1; Serine/threonine-protein kinase ULK1; ULK 1; ULK1; ULK1_HUMAN; Unc 51 (C. elegans) like kinase 1; UNC 51; Unc 51 like kinase 1; Unc-51 like kinase 1 (C. elegans); Unc-51-like kinase 1; UNC51; UNC51, C. elegans, homolog of; Unc51.1
Form/Format	Synthetic peptide was lyophilized with 100% acetonitrile and is supplied as a powder. Reconstitute with 0.1 ml DI water for a final concentration of 10 mg/ml.
Purity/Purification	The purity is >90%,tested by HPLC and MS.
Preparation and Storage	Maintain refrigerated at 2-8 degree C for up to 6 months. For long term storage store at -20 degree C.
Antibody/Peptide Pairs	ULK1 peptide (MBS9618656) is used for blocking the activity of ULK1 antibody (MBS9610935)
Molecular Weight	Predicted: 116 kDa Observed: 105 kDa
OMIM	603168
Supply Chain Verification	Manufactured in a lab with traceable raw materials manufactured on site. Coordinated product portfolio of antibodies, pairs, conjugates, recombinant proteins, and immunoassay materials available, please inquire.
Notes	For phospho antibody, we provide phospho peptide (0.5mg) and non-phospho peptide (0.5mg)
ISO Certification	Manufactured in an ISO 9001:2015 Certified Laboratory.
Applications Tested/Suitable for ULK1 blocking peptide	Blocking/Control
Related Product Information for ULK1 blocking peptide	Blocking peptides are peptides that bind specifically to the target antibody and block antibody binding. These peptide usually contains the epitope recognized by the antibody. Antibodies bound to the blocking peptide no longer bind to the epitope on the target protein. This mechanism is useful when non-specific binding is an issue, for example, in Western blotting (immunoblot) and immunohistochemistry (IHC). By comparing the staining from the blocked antibody versus the antibody alone, one can see which staining is specific; Specific binding will be absent from the western blot or immunostaining performed with the neutralized antibody.
Other Notes	Small volumes of ULK1 blocking peptide vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for ULK1 purchase	MBS9618656 is a blocking peptide targeting ULK1.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for ULK1. It may not necessarily be applicable to this product.

NCBI GI #	4507831
NCBI GeneID	8408
NCBI Accession #	NP_003556

UniProt Primary Accession #	O75385
UniProt Secondary Accession #	Q9UQ28
UniProt Related Accession #	O75385
GenBank Nucleotide #	NP_003556.1
NCBI Official Full Name	serine/threonine-protein kinase ULK1
NCBI Official Synonym Full Names	unc-51 like autophagy activating kinase 1
NCBI Official Symbol	ULK1
NCBI Official Synonym Symbols	ATG1; ATG1A; UNC51; hATG1; Unc51.1
UniProt Protein Name	Serine/threonine-protein kinase ULK1
UniProt Synonym Protein Names	Autophagy-related protein 1 homolog; ATG1; hATG1; Unc-51-like kinase 1
Protein Family	Serine/threonine-protein kinase
UniProt Gene Name	ULK1
UniProt Synonym Gene Names	KIAA0722; ATG1; hATG1
UniProt Entry Name	ULK1_HUMAN
NCBI Protein Information	serine/threonine-protein kinase ULK1; ATG1 autophagy related 1 homolog; autophagy-related protein 1 homolog
UniProt Comments for ULK1	ULK1: 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. Interacts with GABARAP and GABARAPL2. Interacts (via C- terminus) with ATG13/KIAA0652. Part of a complex consisting of ATG13/KIAA0652, ULK1 and RB1CC1. Associates with the mammalian target of rapamycin complex 1 (mTORC1) through an interaction with RPTOR; the association depends on nutrient conditions and is reduced during starvation. Ubiquitously expressed. Detected in the following adult tissues: skeletal muscle, heart, pancreas, brain, placenta, liver, kidney, and lung. Belongs to the protein kinase superfamily. Ser/Thr protein kinase family. APG1/unc-51/ULK1 subfamily. Protein type: Protein kinase, Other; EC 2.7.11.1; Protein kinase, Ser/Thr (non-receptor); Kinase, protein; Autophagy; Other group; ULK family Chromosomal Location of Human Ortholog: 12q24.3 Cellular Component: neuron projection; cytoplasmic vesicle membrane; cell soma; cytoplasm; pre-autophagosomal structure membrane; autophagic vacuole; cytosol Molecular Function: protein serine/threonine kinase activity; protein binding; protein complex binding; protein kinase binding; ATP binding; Rab GTPase binding Biological Process: axon extension; protein amino acid autophosphorylation; neurite regeneration; negative regulation of collateral sprouting; cerebellar granule cell differentiation; protein amino acid phosphorylation; radial glia guided migration of granule cell; response to starvation; cellular response to nutrient levels; protein localization; receptor internalization; Ras protein signal transduction; regulation of autophagy; regulation of nerve growth factor receptor signaling pathway; positive regulation of macroautophagy; positive regulation of autophagy; neurite development; autophagic vacuole formation
Research Articles on ULK1	**1.** Data show that under basal and stressed conditions, AMPK and ULK1 are differentially required for Atg2A S761 phosphorylation.

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