

ProQinase™ ULK1

unc-51 like autophagy activating kinase 1

Recombinant Human Active Protein Kinase

HGNC Symbol: ULK1

Synonyms: ATG1; ATG1A

Product No.: 1938-0000-1

Lot: 002

Description: Human Kinase, N-terminal fragment, amino acids M₁-A₂₈₀ (as in [NCBI/Protein](#) entry NP_003556.1), N-terminal GST-HIS₆ fusion protein with a 3C protease cleavage site, expressed in Sf9 insect cells

Product identity: ULK1 Lot 002, was confirmed as ULK1 by mass spectroscopy LC-ESI-MS/MS

Theoretical MW_{Fusion Protein}: 59868 Da

Expression host: Sf9 insect cells

Purification: GST-Affinity Chromatography

Activation: This kinase was not activated by special procedures

Storage buffer: 50 mM HEPES pH 7.5, 100 mM NaCl, 5 mM DTT, 15 mM reduced glutathione, 20 % glycerol

Storage temperature: -80°C

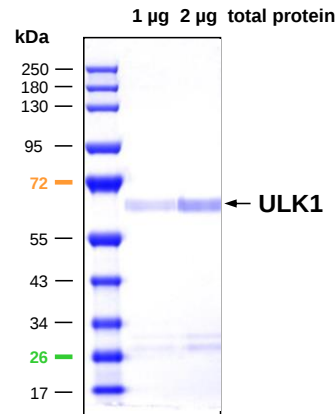
For complete recovery, mix well and spin before use. Product must not be stored in diluted solutions, aliquots below 10 µl are not advisable. Avoid repeated freeze-thaw cycles!

Protein concentration: 0.386 µg/µl
(Bradford method using BSA [Sigma, cat# A-7638, Lot 79H7641] as standard protein)

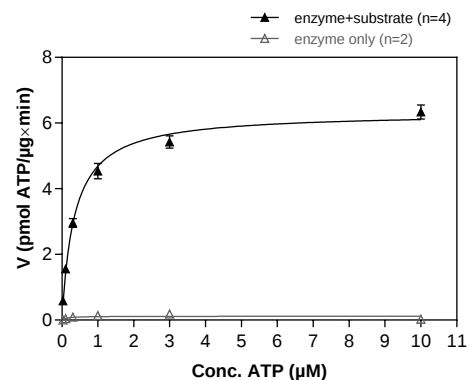
Biochemical Parameters:

Specific kinase activity (P_i transfer): 6.3 pmol/µg x min
ATP-K_M: 0.35 µM

ULK1 Lot 002:
Coomassie stain



ULK1 Lot 002:
Determination of V_{max} and K_M value for ATP



- Assay conditions:
 - 60 mM HEPES-NaOH, pH 7.5
 - 3 mM MgCl₂
 - 3 mM MnCl₂
 - 3 µM Na-orthovanadate
 - 1.2 mM DTT
 - 50 µg/ml PEG_{20,000}
 - ATP (variable)
 - Substrate: Casein 50 µg/ml
 - Kinase: 1 µg/ml
- Filter binding assay
MSFC membrane (Millipore)

Sequence information

GST-ULK1 Recombinant Fusion Protein Amino Acid Sequence

1	MSPILGYWKI	KGLVQPTRLL	LEYLEEKYEE	HLIERDEGDK	WRNKKFELGL	EFPNLPYYID	60
61	GDVKLTQSMA	IIRYIADKHN	MLGGCPKERA	EISMLEGAVL	DIRYGVSRIA	YSKDFETLKV	120
121	DFLSKLPEML	KMFKDRLCHK	TYLNGDHVTH	PDFMLYDALD	VVLYMDPMCL	DAFPKLVCFK	180
181	KRIEAIPIQID	KYLKSSKYIA	WPLQGWQATF	GGGDHPPKSD	PMGHHHHHHG	RDSLEVLFGG	240
241	MEPGRGGTE	TVGKFEFSRK	DLIGHGAFAV	VFKGRHREKH	DLEVAVKCIN	KKNLAKSQTL	300
301	LGKEIKILKE	LKHENIVALY	DFQEMANSVY	LVMEYCNGGD	LADYLHAMRT	LSEDITIRLFL	360
361	QQIAGAMRL	HSKGIIHRDL	KPQNILLSNP	AGRRANPNSI	RVKIADFGFA	RYLQSNMMAA	420
421	TLCGSPMYMA	PEVIMSQHYD	GKADLWSIGT	IVYQCLTGKA	PFQASSPQDL	RLFYEKNKTL	480
481	VPTIPRETS	PLRQLLLALL	QRNHKDRMDF	DEFFHHPFLD	A		540

1-218: GST Red: HIS6-tag Green: 3C cleavage site blue: ULK1 fragment

ULK1 wt¹ Amino Acid Sequence

1	MEPGRGGTET	VGKFEFSRKD	LIGHGAFAVV	FKGRHREKHD	LEVAVKCINK	KNLAKSQTL	60
61	GKEIKILKEL	KHENIVALYD	FQEMANSVYL	VMEYCNGGDL	ADYLHAMRTL	SEDITIRLFLQ	120
121	QIAGAMRLH	SKGIIHRDLK	PQNILLSNPA	GRRANPNSIR	VKIADFGFAR	YLQSNMMAAT	180
181	LCGSPMYMAP	EVIMSQHYDG	KADLWSIGTI	VYQCLTGKAP	FQASSPQDLR	LFYEKNTLV	240
241	PTIPRETSAP	LRQLLLALLQ	RNHKDRMDFD	EFFHHPFLDA	SPSVRKSPPV	PVPSYPSSGS	300
301	GSSSSSSSTS	HLASPPSLGE	MQQLQKTLAS	PADTAGFLHS	SRDSGGSKDS	SCDITDDFVMV	360
361	PAQFPGDLVA	EAPSAKPPPD	SLMCSGSSLV	ASAGLESHGR	TPSPSPCCSS	SPSPSGRAGP	420
421	FSSSRCASV	PIPVPTQVQN	YQRIERNLQS	PTQFQTPRSS	AIRRSRGSTSP	LGPARASPS	480
481	PAHAEHGGVL	ARKMSLGGGR	PYTPSPQVGT	IPERPGWSGT	PSPQGAEMRG	GRSPRPSSA	540
541	PEHSPRTSGL	GCLRHSAPNL	SDLHVVRPKL	PKPPTDPLGA	VFSPQASPP	QPSHGLQSCR	600
601	NLRGSPKLPD	FLQRNPLPPI	LGSPTKAVPS	FDFPKTPSSQ	NLLALLARQG	VVMTPPRNRT	660
661	LPDLSEVGPF	HGQPLGPGLR	PGEDPKGPGF	RSFSTSRLTD	LLLKAAGFTQ	APDPGSTESL	720
721	QEKPMIAPS	AGFGGSLHPG	ARAGGTSSPS	PVVFTVGSPP	SGSTPPQGPR	TRMFSAGPTG	780
781	SASSARHLV	PGPCSEAPAP	ELPAPGHGCS	FADPIAANLE	GAVTFEAPDL	PEETLMEQEH	840
841	TEILRGLRFT	LLFVQHVLEI	AALKGSASEA	AGGPEYQLQE	SVVADQISLL	SREWGFAEQL	900
901	VLYLKVAELL	SSGLQSAIDQ	IRAGKLCISS	TVKQVVRRLN	ELYKASVSC	QGLSLRLQRF	960
961	FLDKQRLLDR	IHSITAERLI	FSHAVQMVQS	AALDEMFAQHR	EGCVPRYHKA	LLLLLEGLQHM	1020
1021	LSDQADIENV	TKCKLCIERR	LSALLTGICA				1080

blue: ULK1 sequence expressed in recombinant protein

¹[NCBI/Protein](#) accession number NP_003556.1