

Certificate of Analysis

RPS6KA1 (RSK1), 10 µg

Ribosomal Protein S6 Kinase, Polypeptide 1, Histidine-tagged

ThermoFisher
SCIENTIFIC

Part Number: PV3680

Lot Number: 2360571G

Immediate Storage: -80°C

Shipping Conditions: dry ice

5781 Van Allen Way

Carlsbad, CA 92008

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Description:

Recombinant human full-length protein, Histidine-tagged, expressed in insect cells. Co-expressed with untagged PDK1 and activated *in vitro* by GST-tagged MAPK1.

Specific Activity:

370 nmoles of phosphate transferred to S6 peptide substrate (AKRRRLSSLRA) per minute per mg of total protein at 30°C. Activity determined at a final protein concentration of 1.67 µg/mL.

Concentration:

0.28 mg/mL total protein as measured using the Bradford protein assay with BSA as a standard.

Calculated **3,160 nM**.

Aliases:

RSK, HU-1, RSK1

Storage and Handling:

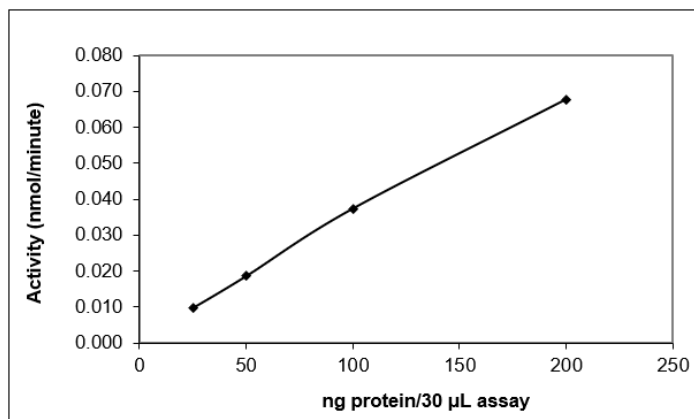
For maximum recovery please spin prior to use. Unless noted below, aliquots of the 5 µg, 10 µg and 20 µg sizes of kinase are not recommended as materials can be used in original packaging until exhausted. For larger sizes, the number of freeze/thaws may be reduced by preparing aliquots, aliquots below 20 µL are not recommended. **Please never store a kinase diluted.** If properly stored at -80°C, this product is guaranteed for 6 months from date of purchase.

Storage Buffer:

50 mM Tris (pH 7.5), 150 mM NaCl, 0.5 mM EDTA, 0.02% Triton® X-100, 2 mM DTT and 50% Glycerol.

QUALITY ASSURANCE

RPS6KA1 (RSK1) Activity Graph



Dilution Buffer:

20 mM Tris (pH 7.5), 0.05% Triton® X-100, 0.1 mg/mL BSA, 2 mM DTT, 0.5 mM Na₃VO₄ and 10% Glycerol.

Assay Conditions:

RPS6KA1 (RSK1) was pre-diluted in enzyme dilution buffer and assayed in 25 mM Tris (pH 7.5), 10 mM MgCl₂, 0.5 mM EGTA, 0.5 mM Na₃VO₄, 5 mM β-glycerophosphate, 2.5 mM DTT, 0.01% Triton® X-100, 200 µM ATP, 133 µg/mL S6 peptide substrate (AKRRRLSSLRA) and trace [³²P]-γ-ATP for 10 minutes at 30°C.

Gel Information for RPS6KA1 (RSK1)

Page Description: The SDS-PAGE and/or Native PAGE were run on 4-20% Tris-Glycine Novex™ gels (Catalog #: EC6025BOX).

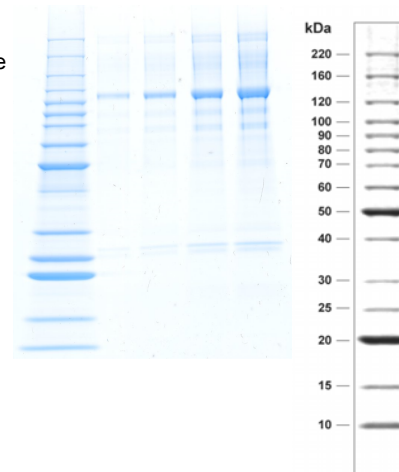
Lane 1: Invitrogen™ BenchMark™ Protein Ladder (Catalog #: 10747-012).

Lane 2: 0.5 µg RPS6KA1 (RSK1)

Lane 3: 1.0 µg RPS6KA1 (RSK1)

Lane 4: 2.5 µg RPS6KA1 (RSK1)

Lane 5: 5.0 µg RPS6KA1 (RSK1)



Purity:

60% as determined by a SDS-PAGE gel stained with SimplyBlue™ SafeStain.

Molecular Weight:

88.5 kDa. Calculated from the protein sequence(s).

Mass Spectrometry:

RPS6KA1 (RSK1) was subjected to proteolytic digest followed by mass spec analysis. The resulting MS/MS data verified RPS6KA1 (RSK1) identity by comparison against the amino acid sequence(s) of the recombinant protein.

Protein sequence alignment with reference sequence(s)

GenBank Accession Number: NP_002944

1	MSYYHHHHH	DYDIPTTENL	YFQGITSLYK	KAGSAAAVLE	ENLYFQGSFT	MPLAQLKEPW	PLMELVPLDP	ENGQTSGEEA	GLQPSKDEGV	LKEISITHHV	IVGN	RPS6KA1
1	-----	-----	-----	-----	-----	MPLAQLKEPW	PLMELVPLDP	ENGQTSGEEA	GLQPSKDEGV	LKEISITHHV	NP_002944	
101	KAGSEKADPS	HFELLKVLGQ	GSFGKVFLVR	KVTRPDSGHL	YAMKVLKKAT	LKVRDRVRTK	MERDILADVN	HPFVVKLHYA	FQTEGKLYLI	LDFLRGGDLF		
51	KAGSEKADPS	HFELLKVLGQ	GSFGKVFLVR	KVTRPDSGHL	YAMKVLKKAT	LKVRDRVRTK	MERDILADVN	HPFVVKLHYA	FQTEGKLYLI	LDFLRGGDLF		
201	TRLSKEVMFT	EEDVKFYLAE	LALGLDHLHS	LGIIYRDLKP	ENILLDEEGH	IKLTDGFLSK	EAIDHEKKAY	SFCGTVEYMA	PEVVRQGH5	HSADWWSYGV		
151	TRLSKEVMFT	EEDVKFYLAE	LALGLDHLHS	LGIIYRDLKP	ENILLDEEGH	IKLTDGFLSK	EAIDHEKKAY	SFCGTVEYMA	PEVVRQGH5	HSADWWSYGV		
301	LMFEMLTGSL	PFQGKDRKET	MTLILKAKLG	MPQFLSTEAG	SLLRALFKRN	PANRLGSGPD	GAEIKRHVF	YSTIDWNKLY	RREIKPPFKP	AVAQPDDTFY		
251	LMFEMLTGSL	PFQGKDRKET	MTLILKAKLG	MPQFLSTEAG	SLLRALFKRN	PANRLGSGPD	GAEIKRHVF	YSTIDWNKLY	RREIKPPFKP	AVAQPDDTFY		
401	FDTEFTSRTP	KDSPGIPPSA	GAHQLFRGFS	FVATGLMEDD	GKPRAPQAPL	HSVVQQLHGK	NLVFSDGYVV	KETIGVGSYS	ECKRCVHKAT	NMEYAVKVID		
351	FDTEFTSRTP	KDSPGIPPSA	GAHQLFRGFS	FVATGLMEDD	GKPRAPQAPL	HSVVQQLHGK	NLVFSDGYVV	KETIGVGSYS	ECKRCVHKAT	NMEYAVKVID		
501	KSKRDPSEEI	EILLRYGQHP	NIITLKDVYD	DGKHVYLVTE	LMRGGELLDK	ILRQKFFSER	EASFVLHTIG	KTVEYLSHQG	VVHRDLKPSN	ILYVDESGNP		
451	KSKRDPSEEI	EILLRYGQHP	NIITLKDVYD	DGKHVYLVTE	LMRGGELLDK	ILRQKFFSER	EASFVLHTIG	KTVEYLSHQG	VVHRDLKPSN	ILYVDESGNP		
601	ECLRICDFGF	AKQLRAENGL	LMTPCYTANF	VAPEVLKRQG	YDEGCDIWSL	GILLYTMLAG	YTPFANGPSD	TPEEILTRIG	SGKFTLSGGN	WNTVSETAKD		
551	ECLRICDFGF	AKQLRAENGL	LMTPCYTANF	VAPEVLKRQG	YDEGCDIWSL	GILLYTMLAG	YTPFANGPSD	TPEEILTRIG	SGKFTLSGGN	WNTVSETAKD		
701	LVSFMLHVDP	HQRLTAKQVL	QHPWVTQDKD	LPQSLSHQD	LQLVKGAMAA	TYSALNSSKP	TPQLKPIESS	ILAQRVRVKL	PSTTL			
651	LVSFMLHVDP	HQRLTAKQVL	QHPWVTQDKD	LPQSLSHQD	LQLVKGAMAA	TYSALNSSKP	TPQLKPIESS	ILAQRVRVKL	PSTTL			

* highlighted residues denote differences from the reference protein sequence(s).



Chevoyn Joseph, Director, Quality

Date: 07/Sep/2021

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