

ProQinase™ ROCK2

Rho associated coiled-coil containing protein kinase 2

Recombinant Human Active Protein Kinase

HGNC Symbol: ROCK2

Synonyms: Roc2

Product No.: 0347-0000-1

Lot: 002

Description: Human Kinase, internal fragment, amino acids P₆-S₅₅₃ (as in [NCBI/Protein](#) entry NP_004841.2), N-terminal GST-HIS₆ fusion protein with a Thrombin cleavage site, expressed in Sf9 insect cells

Product identity: ROCK2 Lot002, was confirmed as ROCK2 by mass spectroscopy LC-ESI-MS/MS

Theoretical MW_{Fusion Protein}: 92,279 Da

Expression host: Sf9 insect cells/E.coli

Purification: GST-Affinity Chromatography

Activation: This kinase was not activated by special procedures

Storage buffer: 50 mM TRIS-HCl pH 7.5, 100 mM NaCl, 5 mM DTT, 4 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 10µl are not advisable. Avoid repeated freeze-thaw cycles!

Protein concentration: 0.356 µg/µl
(Bradford method using BSA [Sigma, cat# A-7638, Lot 79H7641] as standard protein)

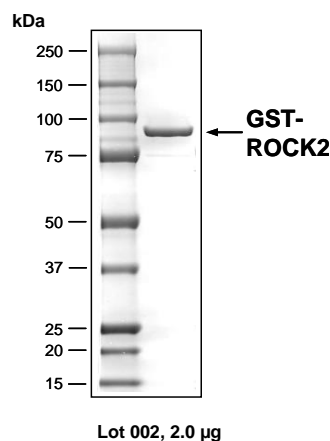
Biochemical Parameters:

Specific kinase activity (P_i transfer): 34 pmol/µg × min
ATP-K_M: 0.8 µM

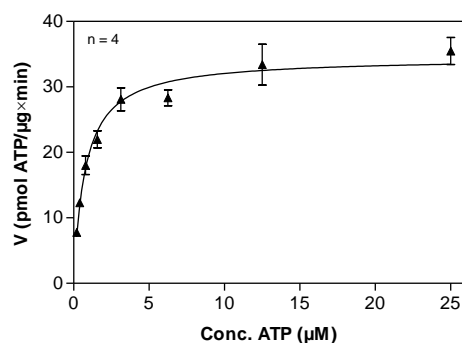
Additional assay technology:

ROCK2 Lot 002 was also successfully tested by Reaction Biology for the use with the ADP-Glo™ Kinase assay from Promega ADP-Glo assay conditions may vary from radiometric assay conditions, please inquire for assay details

ROCK2 Lot 002: Coomassie stain



ROCK2 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: tetra(LRRWSLG), 100µg/ml
Kinase: 0.4 µg/ml
- Filter binding assay
MSPH membrane (Millipore)

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GST-ROCK2 Recombinant Fusion Protein Amino Acid Sequence							
1	MSPILGYWKI	KGLVQPTRL	LEYLEEKYEE	HLYERDEGDK	WRNKKFELGL	EFPNLPYYID	60
61	GDVKLTQSMA	IIRYIADKHN	MLGGCPKERA	EISMLEGAVL	DIRYGVSRIA	YSKDFETLKV	120
121	DFLSKLP EML	KMFEDRLCHK	TYLNGDHVTH	PDFMLYDALD	VVLYMDPMCL	DAFPKLVCFK	180
181	KRIEAI PQID	KYLKSSKYIA	WPLQGWQATF	GGGDHPPKSD	PMGHHHHHG	RRRASVAAGI	240
241	LVPRGSPGLD	GICSRPTGKM	PGAPETAPGD	GAGASRQRKL	EALIRDPRSP	INVELLDGL	300
301	NSLVLDLDFP	ALRKNKNIDN	FLNRYEKIVK	KIRGLQMKAE	DYDVVKVIGR	GAFGEVQLVR	360
361	HKASQKVYAM	KLLSKFEMIK	RSDSAFFWEE	RDIMAFANSF	WVQLFYAFQ	DDRYLYMVM	420
421	YMPGGDLVNL	MSNYDVPEKW	AKFYTAEVVL	ALDAIHSMGL	IHRDVKPDNM	LLDKHGHLKL	480
481	ADFGTCMKMD	ETGMVHCDTA	VGTPDYISPE	VLKSQGGDGF	YGRECDWWSV	GVFLYEMLVG	540
541	DTPFYADSLV	GTYSKIMDHK	NSLCFPEDAE	ISKHAKNLIC	AFLTDREVRL	GRNGVEEIRQ	600
601	HPFFKNDQWH	WDNIRETAAP	VVPELSSDID	SSNFDDIEDD	KGDVETFFIP	KAFVGNQLPF	660
661	IGFTYYRENL	LLSDSPSCRE	TDSIQSRKNE	ESQEIQKKLY	TLEEHLNEM	QAKEELEQKC	720
721	KSVNTRLEKT	AKELEEEITL	RKSVESALRQ	LEREKALLQH	KNAEYQRKAD	HEADKRNLE	780
781	NDVNSLKDQL	EDLKKRNQNS	QIS				840

1-218: GST Red: HIS6-tag Pink: Thrombin cleavage site blue: ROCK2 fragment

ROCK2 wt ¹ Amino Acid Sequence							
1	MSRPPPTGKM	PGAPETAPGD	GAGASRQRKL	EALIRDPRSP	INVELLDGL	NSLVLDLDFP	60
61	ALRKNKNIDN	FLNRYEKIVK	KIRGLQMKAE	DYDVVKVIGR	GAFGEVQLVR	HKASQKVYAM	120
121	KLLSKFEMIK	RSDSAFFWEE	RDIMAFANSF	WVQLFYAFQ	DDRYLYMVM	YMPGGDLVNL	180
181	MSNYDVPEKW	AKFYTAEVVL	ALDAIHSMGL	IHRDVKPDNM	LLDKHGHLKL	ADFGTCMKMD	240
241	ETGMVHCDTA	VGTPDYISPE	VLKSQGGDGF	YGRECDWWSV	GVFLYEMLVG	DTPFYADSLV	300
301	GTYSKIMDHK	NSLCFPEDAE	ISKHAKNLIC	AFLTDREVRL	GRNGVEEIRQ	HPFFKNDQWH	360
361	WDNIRETAAP	VVPELSSDID	SSNFDDIEDD	KGDVETFFIP	KAFVGNQLPF	IGFTYYRENL	420
421	LLSDSPSCRE	TDSIQSRKNE	ESQEIQKKLY	TLEEHLNEM	QAKEELEQKC	KSVNTRLEKT	480
481	AKELEEEITL	RKSVESALRQ	LEREKALLQH	KNAEYQRKAD	HEADKRNLE	NDVNSLKDQL	540
541	EDLKKRNQNS	QISTEKVNQL	QRQLDETNAL	LRTESDTAAR	LRKTQAESSK	QIQQLESNNR	600
600	DLQDKNCLLE	TAKLKLEKEF	INLQSALESE	RRDRTHGSEI	INDLQGRICG	LEEDLKNKGI	660
661	LLAKVELEKR	QLQERFTDLE	KEKSNMEIDM	TYQLKVIQQS	LEQEEAEHKA	TKARLADKNK	720
721	IYESIEEAKS	EAMKEMEKKL	LEERTLKQKV	ENLLLEAEKR	CSLLDCDLKQ	SQQKINELLK	780
781	QKDVLNEDVR	NLTLKIEQET	QKRCLTQNDL	KMQTQQVNTL	KMSEKQLKQE	NNHLMEMKMN	840
841	LEKQNAELRK	ERQDADGQMK	ELQDQLEAEQ	YFSTLYKTQV	RELKEECEBK	TKLKGELQQK	900
901	KQELQDERDS	LAAQLEITLT	KADSEQLARS	IAEEQYSDLE	KEKIMKELEI	KEMMARHKQE	960
961	LTEKDATIAS	LEETNRTLTS	DVANLANEKE	ELNNKLDVQ	EQLSRLKDEE	ISAAAIKQAF	1020
1021	EKQLLTERTL	KTQAVNKLAE	IMNRKEPVKR	GNDTDVRRKE	KENRKLHMEI	KSEREKLTQQ	1080
1081	MIKYQKELNE	MQAQIAEESQ	IRIELQMTLD	SKDSDIEQLR	SQLQALHIGL	DSSSIGSGPG	1140
1141	DAEADDGFPE	SRLEGWLSLP	VRNNTKKFGW	VKKYVIVSSK	KILFYDSEQD	KEQSNPYMVL	1200
1201	DIDKLFHVRP	VTQTDVYRAD	AKEIPRIFQI	LYANEGESKK	EQEFPVEPVG	EKSNYICHKG	1260
1261	HEFIPTLYHF	PTNCEACMKP	LWHMFKPPPA	LECRCHIK	HKDHMDKKEE	IIAPCKVYVD	1320
1321	ISTAKNLLLL	ANSTEEQQKW	VSRLVKKIPK	KPPAPDPFAR	SSPRTSMKIQ	QNQSIRRPSR	1380
1381	QLAPNKPS						1440

blue: ROCK2 sequence expressed in recombinant protein

¹[NCBI/Protein](#) accession number NP_004841.2