

ACV-R1

activin A receptor type 1

Recombinant Human Active Protein Kinase

HGNC Symbol: ACVR1

Synonyms: ALK2, SKR1, ACTRI, ACVRLK2

Product No.: 0372-0000-1

Lot: 001

Description: Human ACV-R1, C-terminal fragment, amino acids A₁₄₅-C₅₀₉ (as in [NCBI/Protein](#) entry NP_001096.1), N-terminal GST-HIS₆ fusion protein with a Thrombin cleavage site, expressed in Sf9 insect cells

Product identity: ACV-R1 Lot 001, was confirmed as ACV-R1 by specific Western Blotting using anti ACV-R1 antibody

Theoretical MW_{Fusion Protein}: 71,534 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, 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: 0.391 µg/µl
(Bradford method using BSA [Sigma, cat# A-7638, Lot 79H7641] as standard protein)

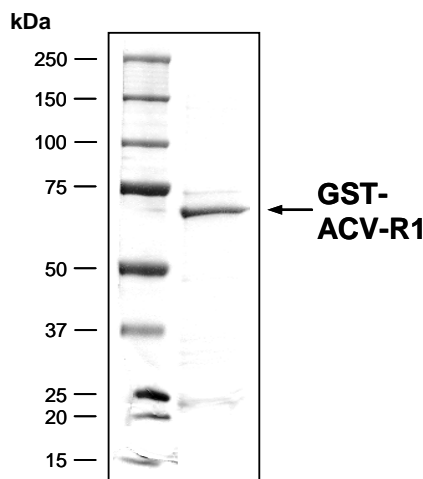
Biochemical Parameters:

Specific kinase activity (P_i transfer): 92 pmol/µg × min
ATP-K_M: 15 µM

Additional assay technology:

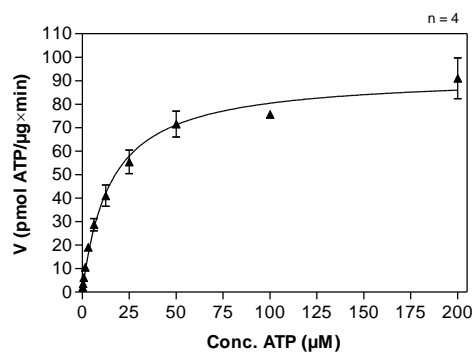
ACV-R1 Lot 001 was also successfully tested by ProQinase for the use with the ADP-Glo™ Kinase assay from Promega. ADP-Glo assay conditions may vary from radiometric assay conditions, please inquire for assay details

ACV-R1 Lot 001: Coomassie stain



2.0 µg GST-ACV-R1

ACV-R1 Lot 001: 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 200 µg/ml
 - Kinase: 4 µg/ml
- Filter binding assay
MSFC membrane (Millipore)



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GST-ACV-R1 Recombinant Fusion Protein Amino Acid Sequence							
1	MSPILGYWKI	KGLVQPTRL	LEYLEEKYEE	HLYERDEGDK	WRNKKFELGL	EFPNLPYYID	60
61	GDVKLTQSMA	IIRYIADKHN	MLGGCPKERA	EISMLEGAVL	DIRYGVSRIA	YSKDFETLKV	120
121	DFLSKLPPEML	KMFEDRLCHK	TYLNGDHVTH	PDFMLYDALD	VVLYMDPMCL	DAFPKLVCFK	180
181	KRIEAIPOID	KYLKSSKYIA	WPLQGWAQTF	GGGDHPPKSD	PMGHHHHHG	RRRASVAAGI	240
241	LVPRGSPGLD	GIYARGIQAS	MALRKFRRN	QERLNPRDVE	YGTIEGLITT	NVGDSTLADL	300
301	LDHSCTSGSG	SGLPFLVQRT	VARQITLLEC	VGKGRYGEVW	RGSWQGENVA	VKIFSSRDEK	360
361	SWFRETELYN	TVMLRHENIL	GFIASDMTSR	HSSTQLWLIT	HYHEMGSLYD	YLQLTTLDTV	420
421	SCLRIVLSIA	SGLAHLHIEI	FGTQGKPAIA	HRDLKSKNIL	VKKNQCCIA	DLGLAVMHSQ	480
481	STNQLDVGNN	PRVGTKRYMA	PEVLDETIQV	DCFDSYKRVD	IWAFGLVLWE	VARRMVSNGI	540
541	VEDYKPPFYD	VVPNDPSFED	MRKVVCVDQQ	RPNIPNRWFS	DPTLTSLAKL	MKECWYQNP	600
601	ARLTALRIKK	TLTKIDNSLD	KLKTDC				660

1-218: GST Red: HIS6-tag Pink: Thrombin cleavage site blue: ACR-R1 fragment

ACV-R1 wt ¹ Amino Acid Sequence							
1	MVDGVMILPV	LIMIALPSPS	MEDEKPKVNP	KLYMCVCEGL	SCGNEDHCEG	QQCFSSLSIN	60
61	DGFHVYQKGC	FQVYEQGKMT	CKTPPSPGQA	VECCQGDWCN	RNITAQLPTK	GKSFPGTQNF	120
121	HLEVGLIILS	VVFAVCLLAC	LLGVALRKF	RRNQERLNPR	DVEYGTIEGL	ITTNVGDSTL	180
181	ADLLDHSCS	SGSGLPFLV	QRTVARQITL	LECVGKGRYG	EVWRGSWQGE	NVAVKIFSSR	240
241	DEKSWFRETE	LYNTVMLRHE	NILGFIASDM	TSRHSSTQLW	LITHYHEMGS	LYDYLQLTTL	300
301	DTVSLRIVL	SIASGLAHLH	IEIFGTQGKP	AIAHRDLKSK	NILVKNQGC	CIADLGLAVM	360
361	HSQSTNQLDV	GNNPRVGTGR	YMAPEVLDET	IQVDCFDSYK	RVDIWAFLV	LWEVARRMVS	420
421	NGIVEDYKPP	FYDVVPNDPS	FEDMRKVVCV	DQQRPNIPNR	WFSPTLTSL	AKLMKECWYQ	480
481	NPSARLTALR	IKKTLTKIDN	SLDKLKTDC				540

blue: ACV-R1 sequence expressed in recombinant protein

¹[NCBI/Protein](#) accession number NP_001096.1