

## ProQinase™ 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 A<sub>145</sub>-C<sub>509</sub> (as in [NCBI/Protein](#) entry NP\_001096.1), N-terminal GST-HIS<sub>6</sub> 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<sub>Fusion Protein</sub>:** 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)

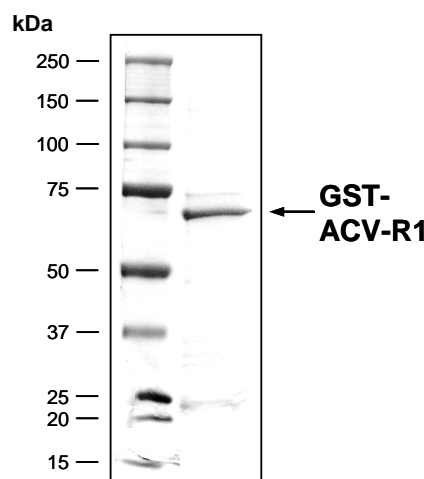
### Biochemical Parameters:

Specific kinase activity (P<sub>i</sub> transfer): 92 pmol/µg × min  
ATP-K<sub>M</sub>: 15 µM

### Additional assay technology:

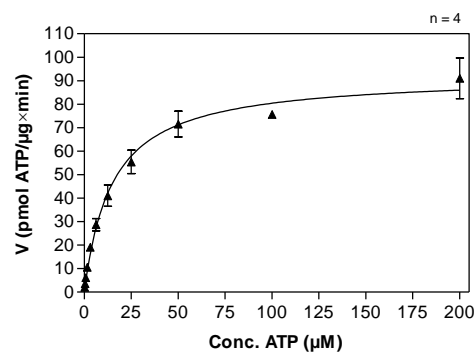
ACV-R1 Lot 001 was also successfully tested by Reaction Biology for the use with the ADP-Glo™ Kinase assay from Promega ADP-Glo assay conditions may vary from radiometric assay conditions, please inquire for assay details

### ACV-R1 Lot 001: Coomassie stain



2.0 µg GST-ACV-R1

### ACV-R1 Lot 001: Determination of V<sub>max</sub> and K<sub>M</sub> value for ATP



- Assay conditions:  
60 mM HEPES-NaOH, pH 7.5  
3 mM MgCl<sub>2</sub>  
3 mM MnCl<sub>2</sub>  
3 µM Na-orthovanadate  
1.2 mM DTT  
50 µg/ml PEG<sub>20,000</sub>  
ATP (variable)  
Substrate: Casein 200 µg/ml  
Kinase: 4 µg/ml
- Filter binding assay  
MSFC membrane (Millipore)

## ProQinase™ ACV-R1

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GST-ACV-R1 Recombinant Fusion Protein Amino Acid Sequence							
1	MSPILGYWKI	KGLVQPTRLL	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	<b>LVPRGSPGLD</b>	GIYARGIQAS	<b>MALRKFRRN</b>	<b>QERLNPRDVE</b>	<b>YGTIEGLITT</b>	<b>NVGDSTLADL</b>	300
301	<b>LDHSCSTSGS</b>	<b>SGLPFLVQRT</b>	<b>VARQITLLEC</b>	<b>VGKGRYGEVW</b>	<b>RGSWQGENVA</b>	<b>VKIFSSRDEK</b>	360
361	<b>SWFRETELYN</b>	<b>TVMLRHENIL</b>	<b>GFIASDMTSR</b>	<b>HSSTQLWLIT</b>	<b>HYHEMGSLYD</b>	<b>YLQLTTLDTV</b>	420
421	<b>SCLRIVLSIA</b>	<b>SGLAHLHIEI</b>	<b>FGTQGKPAIA</b>	<b>HRDLKSKNIL</b>	<b>VKKNQCCIA</b>	<b>DLGLAVMHSQ</b>	480
481	<b>STNQLDVGNN</b>	<b>PRVGTKRYMA</b>	<b>PEVLDETIQV</b>	<b>DCFDSYKRVD</b>	<b>IWAFGLVLWE</b>	<b>VARRMVSNGI</b>	540
541	<b>VEDYKPPFYD</b>	<b>VVPNDPSFED</b>	<b>MRKVVCVDQQ</b>	<b>RPNIPNRWFS</b>	<b>DPTLTSLAKL</b>	<b>MKECWYQNS</b>	600
601	<b>ARLTALRIKK</b>	<b>TLTKIDNSLD</b>	<b>KLKTDG</b>				660

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

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

**blue**: ACV-R1 sequence expressed in recombinant protein

<sup>1</sup>[NCBI/Protein](#) accession number NP\_001096.1