

ProQinase™ VEGF-R2

vascular endothelial growth factor receptor 2

Recombinant Human Active Protein Kinase

HGNC Symbol: KDR

Synonyms: FLK1, VEGFR, CD309

Product No.: 0096-0000-1

Lot: 015

Description: Human VEGF-R2, C-terminal fragment, amino acids D₈₀₇-V₁₃₅₆ (as in [NCBI/Protein](#) entry NP_002244.1), N-terminal GST fusion protein, expressed in Sf9 insect cells

Product identity: VEGF-R2 Lot 015, was confirmed as VEGF-R2 by mass spectroscopy LC-ESI-MS/MS

Theoretical MW_{Fusion Protein}: 87,095 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 10µl are not advisable. Avoid repeated freeze-thaw cycles!

Protein concentration: 0.072 µg/µl

(Bradford method using BSA [Sigma, cat# A-7638, Lot 79H7641] as standard protein)

Biochemical Parameters:

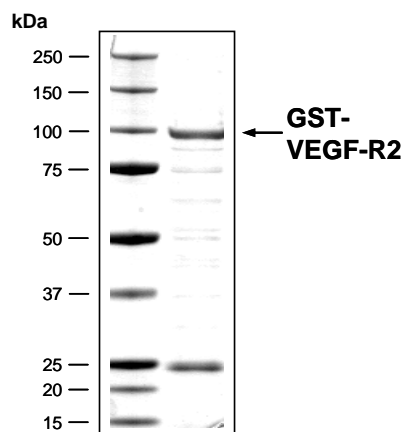
Specific kinase activity (P_i transfer): 218 pmol/µg × min

ATP-K_M: 8.1 µM

Additional assay technology:

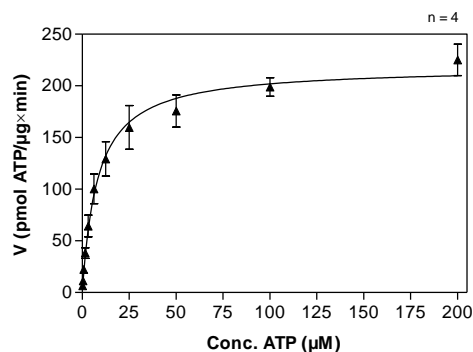
VEGF-R2 Lot015 was also successfully tested by Reaction Biology for the use with the ADP-Glo™ Kinase assay from Promega ADP-Glo assay conditions may vary from radiometric assay conditions, please inquire for assay details

VEGF-R2 Lot015:
Coomassie stain



2.0 µg GST-VEGF-R2

VEGF-R2 Lot015:
Determination of V_{max} and K_M value for ATP



Determination of K_M value & Specific activity:

- 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: Poly(Glu:Tyr)_{4:1}, 2 µg/ml
 - VEGF-R2: 1 µg/ml
- Filter binding assay
- MSFC membrane (Millipore)

ProQinase™ VEGF-R2

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| GST-VEGF-R2 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 | KRIEAIPIQID | KYLKSSKYIA | WPLQGWQATF | GGGDHPPKSD | PDELPLDEHC | ERLPYDASKW | 240 |
| 241 | EFPRDLKLG | KPLGRGAFGQ | VIEADAFGID | KTATCRTVAV | KMLKEGATHS | EHRALMSELK | 300 |
| 301 | ILIHIGHHLN | VVNLGACTK | PGGPLMVIVE | FCKFGNLSTY | LRSKRNEFVP | YKTKGARFRQ | 360 |
| 361 | GKDYVGAIPV | DLKRRLDSIT | SSQSSASSGF | VEEKSLSDVE | EEEAPEDLYK | DFLTLEHLIC | 420 |
| 421 | YSFQVAKGME | FLASRCKIHR | DLAARNILLS | EKNVVKICDF | GLARDIYKDP | DYVRKGDARL | 480 |
| 481 | PLKWMAPETI | FDRVYTIQSD | VWSFGVLLWE | IFSLGASPYP | GVKIDEEFCR | RLKEGTRMRA | 540 |
| 541 | PDYTTPEMYQ | TMLDCWHGEP | SQRPTFSELV | EHLGNLLQAN | AQQDGKDYIV | LPISETLSME | 600 |
| 601 | EDSGLSLPTS | PVSCMEEEV | CDPKFHYDNT | AGISQYLQNS | KRKSRSVSK | TFEDIPLPEP | 660 |
| 661 | EVKVIPDDNQ | TDSGMVLASE | ELKTLEDRTK | LSPSFGGMVP | SKSRSEVSE | GSNQTSGYQS | 720 |
| 721 | GYHSDTDTT | VYSSEAEELL | KLIEIGVQTG | STAQILQPDS | GTTLSSPPV | | 780 |

1-218: GST **blue**: VEGF-R2 fragment

| VEGF-R2 wt ¹ Amino Acid Sequence | | | | | | | |
|---------------------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|------|
| 1 | MQSKVLLAVA | LWLCVETRAA | SVGLPSVSLD | LPRLSIQKDI | LTIKANTTLQ | ITCRGQRDL | 60 |
| 61 | WLWPNNQSGS | EQRVEVTECS | DGLFCKTLTI | PKVIGNDTGA | YKCFYRETDL | ASVIYVYVD | 120 |
| 121 | YRSPFIASVS | DQHGCVYITE | NKNKTVVIPC | LGSISNLNVS | LCARYPEKRF | VPDGNRISWD | 180 |
| 181 | SKKGFTIPSY | MISYAGMVFC | EAKINDESQY | SIMYIVVVVG | YRIYDVVLSF | SHGIELSVGE | 240 |
| 241 | KLVLNCTART | ELNVGIDFNW | EYPSSKHQHK | KLVNRLDKTQ | SGSEMKKFLS | TLTIDGVTRS | 300 |
| 301 | DQGLYTCAAS | SGLMTKKNST | FVRVHEKPFV | AFGSGMESLV | EATVGERVRI | PAKYLGYPPP | 360 |
| 361 | EIKWYKNGIP | LESNHTIKAG | HVLTIMEVSE | RDTGNYTVIL | TNPISKEKQS | HVVSLVVYVP | 420 |
| 421 | PQIGEKSLIS | PVDSYQYGT | QTLTCTVYAI | PPPHIHWHY | QLEEECANEP | SQAVSVTNPY | 480 |
| 481 | PCEEWRVSD | FQGGNKIEVN | KNQFALIEGK | NKTVSTLVIQ | AANVSALYK | EAVNKVGRGE | 540 |
| 541 | RVISFHVTRG | PEITLQPDQM | PTEQESVSLW | CTADRSTFEN | LTWYKLGQP | LPIHVGELEPT | 600 |
| 601 | PVCKNLDTLW | KLNATMFSNS | TNDILIMELK | NASLQDQGDY | VCLAQDRKTK | KRHCVVRQLT | 660 |
| 661 | VLERVAPTIT | GNLENQTTSI | GESIEVSCA | SGNPPPQIMW | FKDNETLVED | SGIVLKDGNR | 720 |
| 721 | NLTIRVRKE | DEGLYTCQAC | SVLGCACKVEA | FFIIEGAQEK | TNLEIILVIG | TAVIAMFFWL | 780 |
| 781 | LLVIIILRTVK | RANGGELKTG | YLSIVMDPDE | LPLDEHCERL | PYDASKWEFP | RDRLKLGKPL | 840 |
| 841 | GRGAFGQVIE | ADAFGIDKTA | TCRTVAVKML | KEGATHSEHR | ALMSELKILI | HIGHHLNVVN | 900 |
| 901 | LLGACTKPGG | PLMVIVEFCK | FGNLSTYLRS | KRNEFVPYKT | KGARFRQGD | YVGAIPVDLK | 960 |
| 961 | RRLDSITSSQ | SSASSGFVEE | KSLSDVEEEE | APEDLYKDFL | TLEHLICYSF | QVAKGMEFLA | 1020 |
| 1021 | SRKCIHRDLA | ARNILLSEKN | VVKICDFGLA | RDIYKDPDYV | RKGDARLPLK | WMAPETIFDR | 1080 |
| 1081 | VYTIQSDVWS | FGVLLWEIFS | LGASPYPGVK | IDEEFCRRLK | EGTRMRAPDY | TPPEMYQTML | 1140 |
| 1141 | DCWHGEPESQ | PTFSELVEHL | GNLLQANAQQ | DGKDYIVLPI | SETLSMEEDS | GLSLPTSPVS | 1200 |
| 1201 | CMEEEEVCDP | KFHYDNTAGI | SQYLQNSKRK | SRPVSVKTFE | DIPLEEPEVK | VIPDDNQDTS | 1260 |
| 1261 | GMVLASEELK | TLEDRTKLSL | SFGGMVPSKS | RESVASEGSN | QTSQYQSGYH | SDDTDTTVYS | 1320 |
| 1321 | SEEAELLKLI | EIGVQTGSTA | QILQPDSGTT | LSSPPV | | | 1380 |

blue: VEGF-R2 sequence expressed in recombinant protein

¹NCBI/Protein accession number NP_002244.1