

ProKinase™ GSG2

germ cell associated 2 (haspin)

Recombinant Human Active Protein Kinase

HGNC Symbol: GSG2

Synonyms: Haspin

Product No.: 1319-0000-1

Lot: 005

Description: Human GSG2, C-terminal fragment, amino acids G₄₆₅-K₇₉₈ (as in NCBI/Protein entry NP_114171.2), N-terminal HIS₆ fusion protein with a TEV cleavage site, expressed in E.coli

Product identity: GSG2 Lot 005, was confirmed as GSG2 by mass spectroscopy LC-ESI-MS/MS

Theoretical MW_{Fusion Protein}: 40,395 Da

Expression: E.coli

Purification: Immobilized Metal 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, 20% glycerol

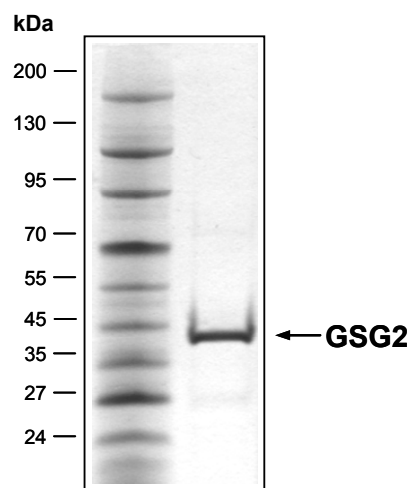
Storage temperature: -80°C
Avoid repeated freeze-thaw cycles!

Protein concentration: 0.505 µg/µl
(Bradford method using BSA [Sigma, cat# A-7638, Lot 79H7641] as standard protein)

Biochemical Parameters:

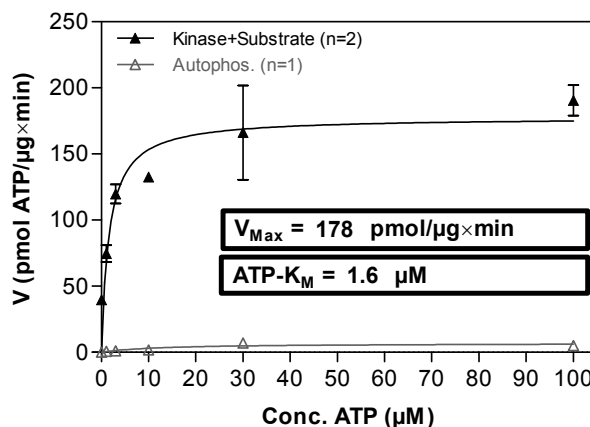
Specific activity: 178 pmol/µg×min
ATP-K_M: 1.6 µM

**GSG2 Lot 005:
Coomassie stain**



2.0 µg GSG2

**GSG2 Lot 005:
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: Histone H3, 80 µg / ml
GSG2: 0.8 µg / ml
- Filter binding assay
MSFC membrane (Millipore)

Additional assay technology: GSG2 Lot 005

was also successfully tested by Reaction Biology for the use with the ADP-Glo™ Kinase assay from



ProQinase™ GSG2

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GSG2 Recombinant Fusion Protein Amino Acid Sequence										
1	MHHHHH	AMT	ENLYFQG	AAML	GECSQKGPVP	FSHCLPTEKL	QRCEKIGEGV	FGEVFQTIAD	60	
61	HTPV	AIKIIA	IEGPD	LVNGS	HQKT	FEEILP	EIIISKELSL	LSGEVCNRTE	GFIGLNSVHC	120
121	VQGS	YPPLLL	KAWDH	YNSTK	GSANDR	PDDFF	KDQLFIVLE	FEFGGIDLEQ	MRTKLSSLAT	180
181	AKSIL	HQLTA	SLAVAE	ASLR	FEHRDL	HWGN	VLLKKTSLKK	LHYTLNGKSS	TIPSCGLQVS	240
241	IIDY	TLSRLE	RDGIV	VFCDV	SMDED	LFTGD	GDYQFDIYRL	MKKENNNRWG	EYHPYSNVLW	300
301	LHYL	TDKMLK	QMTFK	TKCNT	PAMKQ	IKRKI	QEFHRTMLNF	SSATDLLCQH	SLFK	360

Red: HIS6-tag Green: TEV blue: GSG2 fragment

GSG2 wt ¹ amino acid sequence											
1	MAASL	PGPGS	RLFRT	YGAAD	GRRQR	RRPGRE	AAQWFPPQDR	RRFFNSSGSS	DASIGDPSQS	60	
61	DDPDD	PDDDP	FPGSP	VRRRR	RRPGG	RVPKD	RPSLT	VTTPKR	WKLRARPSLT	VTPRRLGLRA	120
121	RPPQK	CSTPC	GPLRL	PPFPS	RDSGR	LSPDL	SVCQG	PRDGD	ELGISASLFS	SLASPCPGSP	180
181	TPRDS	VISIG	TSACL	VAAASA	VPSGL	LHPEV	SLDRAS	LPCS	QEEATGGAKD	TRMVHQTRAS	240
241	LRSVL	FGLMN	SGTPE	DSEFR	ADGKN	MRESC	CKRKL	VVGNG	PEGPGLSSTG	KRRATGQDSC	300
301	QERGL	QEAVR	REHQE	ASVPK	GRIVP	RIGDR	LERTR	SSRKS	KHQEATETSL	LHSHRFKKGQ	360
361	KLKGS	SFPTQ	DLTPL	QNVCF	WTKTR	ASFSF	HKKKI	VTDVS	EVCSIYTTAT	SLSGSLLSEC	420
421	SNRPV	MNRTS	GAPSS	WHSSS	MYLLS	PLNTL	SISNK	KASDA	EKVYGECSQK	GPVPFSHCLP	480
481	TEKL	QCEKI	GEVFG	EVFQ	TIADH	TPVAI	KIIAIE	GPDL	VNGSHQKTFE	EILPEIIISK	540
541	ELSL	LSGEVC	NRTEG	FIGLN	SVHCV	QGSYP	PLLLK	AWDHY	NSTKGSANDR	PDDFFKDDQLF	600
601	IVLE	FEFGGI	DLEQM	RTKLS	SLATA	SILH	QLTAS	LAVAE	ASLRFEHRDL	HWGNVLLKKT	660
661	SLKKL	HYTLN	GKSST	TIPSCG	LQVSI	IDYTL	SRLER	DGIVV	FCDVSMDEDL	FTGDGDYQFD	720
721	IYRL	MKKENN	NRWGE	YHPYS	NVLWL	HYLTD	KMLKQ	MTFKT	KCNTPAMKQI	KRKIQEFHRT	780
781	MLNF	SATDL	LCQHS	SLFK						840	

blue: GSG2 sequence expressed in fusionprotein

¹NCBI/Protein accession number NP_114171.2

Recombinant Proteins