

Certificate of Analysis



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

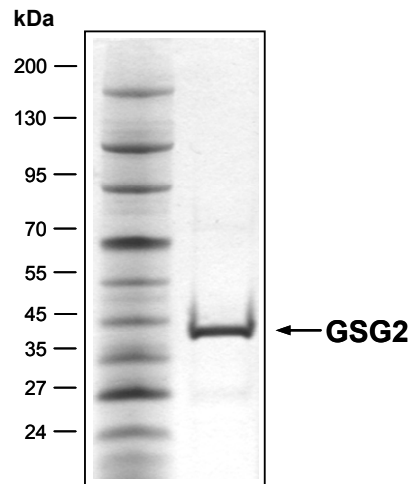
Storage buffer: 50 mM HEPES pH 7.5, 100 mM NaCl, 5 mM DTT, 20% glycerol

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)

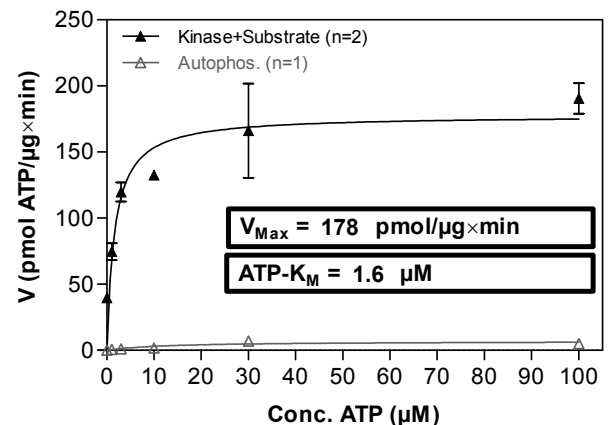
Biochemical Parameters:
Specific activity: 178 pmol/µg×min
ATP-K_M: 1.6 µM

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 ProQinase for the use with the ADP-Glo™ Kinase assay from 

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GSG2

Product No.: 1319-0000-1

GSG2 Recombinant Fusion Protein Amino Acid Sequence										
1	MHHHHH	AMT	ENLYFQ	GAML	GECSQK	GPVP	FSHCLPTEKL	QRCEKIGEGV	FGEVFQTIAD	60
61	HTPVAIKIIA	IEGPD	LVNGS	HQKTFE	EILP	EIIISK	ELSL	LSGEVCNRTE	GFIGLNSVHC	120
121	VQGSYP	PLLL	KAWDHY	NSTK	GSANDR	PDF	KDDQLFIVLE	FEEGGIDLEQ	MRTKLSSLAT	180
181	AKSILHQLTA	SLAVAE	ASLR	FEHRDL	HWGN	VLLKKT	SLK	LHYTLNGKSS	TIPSCGLQVS	240
241	IIDYTL	SRLE	RDGIVV	FCDV	SMDEDL	FTGD	GDYQFDIYRL	MKKENNNRWG	EYHPYSNVLW	300
301	LHYLTDKMLK	QMTFK	TKCNT	PAMKQI	KRKI	QEFHRT	MLNF	SSATDLLCQH	SLFK	360

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

GSG2 wt ¹ amino acid sequence											
1	MAASLP	PGPGS	RLFRTY	GAAD	GRRQRR	PGRE	AAQWFPPQDR	RFFFNSSGSS	DASIGDPSQS	60	
61	DDPDD	DDPD	FPGSPV	RRRR	RRPGGR	VPKD	RPSLTVTPKR	WKLRRAPSLT	VTPRRLGLRA	120	
121	RPPQK	CSTPC	GPLRLP	PFPS	RDSGRL	SPDL	SVCGQPRDGD	ELGISASLFS	SLASPCPGSP	180	
181	TPRDS	VISIG	TSACLVA	AASA	VPSGLH	LPEV	SLDRASLPCS	QEEATGGAKD	TRMVHQTRAS	240	
241	LRSVL	FGLMN	SGTPED	SEFR	ADGKNM	RESC	CKRKLVVGNG	PEGPGLSSTG	KRRATGQDSC	300	
301	QERGL	QEA	VR	REHQA	ESVPK	GRIVPR	GIDR	LERTRSSRKS	KHQEATETSL	LHSHRFKKGQ	360
361	KLKGS	SFPTQ	DLTPLQ	NVCF	WTKTRAS	FSF	HKKKIVTDVS	EVCSIYTTAT	SLSGSLLSEC	420	
421	SNRPV	MNRTS	GAPSSW	HSSS	MYLLSPL	NLTL	SISNKKASDA	EKVYGECSQK	GPVPPFSHCLP	480	
481	TEKLQ	RCEKI	GEVFG	EVFQ	TIADHT	PVAI	KIIAIEGPD	VNGSHQKTFE	EILPEIIISK	540	
541	ELSLLS	GEVC	NRTEG	FIGLN	SVHCVQ	GSYP	PLLLKAWDHY	NSTKGSANDR	PDFFKDDQLF	600	
601	IVLEFE	FGGI	DLEQM	RTKLS	SLATAK	SILH	QLTASLAVAE	ASLRFEHRDL	HWGNVLLKKT	660	
661	SLKKL	HYTLN	GKSST	IPSCG	LQVSI	IDYTL	SRLERDGIVV	FCDVSMDEDL	FTGDGDYQFD	720	
721	IYRLM	KKENN	NRWGE	YHPYS	NVLWL	HYLT	D	KMLKQMTFKT	KCNTPAMKQI	KRKIQEFHRT	780
781	MLNFSS	ATDL	LCQHS	SLFK						840	

blue: GSG2 sequence expressed in fusionprotein

¹NCBI/Protein accession number NP_114171.2