

ProQinase™ GSK3-beta

glycogen synthase kinase 3 beta

Recombinant Human Active Protein Kinase

HGNC Symbol: GSK3B

Synonyms: n/a

Product No.: 0310-0000-1

Lot: 003

Description: Human GSK3-beta, full-length, amino acids M₁-T₄₂₀ (as in [NCBI/Protein](#) entry NP_001139628.1), N-terminal GST-HIS₆ fusion protein with a Thrombin cleavage site, expressed in Sf9 insect cells

Product identity: GSK3-beta Lot 003, was confirmed as GSK3-beta by mass spectroscopy LC-ESI-MS/MS

Theoretical MW_{Fusion Protein}: 76,312 Da

Expression host: Sf9 insect cells

Purification: GST-Affinity Chromatography

Activation: This kinase was not activated by special procedures

Storage buffer: 50 mM TRIS-HCl pH 8.0, 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: 0.276 µg/µl

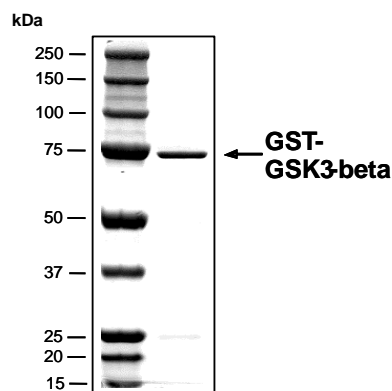
(Bradford method using BSA [Sigma, cat# A-7638, Lot 79H7641] as standard protein)

Biochemical Parameters:

Specific kinase activity (P_i transfer): 6.3 pmol/µg × min

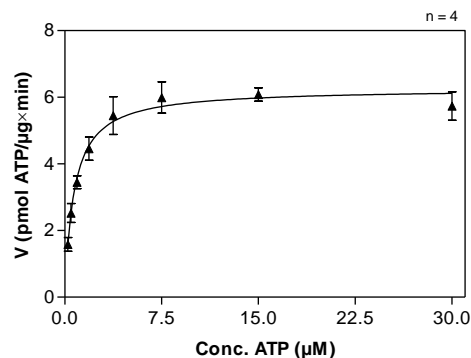
ATP-K_M: 0.7 µM

**GSK3-beta Lot 003:
Coomassie stain**



2.0 µg GST-GSK3-beta

**GSK3-beta Lot 003:
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: RBER-IRStide 100 µg/ml
 - Kinase: 2 µg/ml
- Filter binding assay
MSFC membrane (Millipore)

ProQinase™ GSK3-beta

Product No.: 0310-0000-1

GST-GSK3-beta Recombinant Fusion Protein Amino Acid Sequence							
1	MSPILGYWKI	KGLVQPTRL	LEYLEEKYEE	HLYERDEGDK	WRNKKFELGL	EFPNLPYYID	60
61	GDVKLTQSMA	IIRYIADKHN	MLGGCPKERA	EISMLEGAVL	DIRYGVSRIA	YSKDFETLKV	120
121	DFLSKLP EML	KMFEDRLCHK	TYLNGDHVTH	PDFMLYDALD	VVLYMDPMCL	DAFPKLVCFK	180
181	KRIEAI PQID	KYLKSSKYIA	WPLQGWQATF	GGGDHPPKSD	PMG HHHHHG	RRRASVAAGI	240
241	LVPRG S PGLD	GIYARE MSGR	PRTTSFAESC	KPVQQPSAFG	SMKVS RDKDG	SKVTTV VATP	300
301	GQGPDR PQEV	SYTDTKVIGN	GSFGVVYQAK	LCDSGELVAI	KKVLQDKRFK	NRELQIMRKL	360
361	DHCNIV RLRY	FFYSSGEK KD	EVYLN LVDY	VPETVYR VAR	HYSRAKQ TLP	VIYVKLY MYQ	420
421	LFRSLAY IHS	FGICHR DIKP	QNLLDP DTA	VLKLCDF GSA	KQLVRGE PNV	SYICSRY RA	480
481	PELIFG ATDY	TSSIDV WSAG	CVLAELL LQ	PIFPGD SGVD	QLVEI IKVLG	TPTREQ IREM	540
541	NPNYTE FKFP	QIKAHP WTKV	FRPRT PPEAI	ALCSRL LEYT	PTARLT PLEA	CAHSFF DEL R	600
601	DPNVK LPNGR	DTPAL FNFTT	QELSS NPPLA	TILIP PHARI	QAAAS TPTNA	TAASD ANTGD	660
661	RGQT NNAASA	SAS NST					720

1-218: GST **Red**: HIS6-tag **Pink**: Thrombin cleavage site **blue**: GSK3-beta

GSK3-beta wt ¹ Amino Acid Sequence							
1	MSGRP RRTTSF	AESCK PVQQP	SAFGS MKVS R	DKDGS KVTV	VATPG QGPDR	PQEVSY TDTK	60
61	VIGNG SFGVV	YQAKL CDSGE	LVAIK KVLQD	KRFKN RELQI	MRKLD HCNIV	RLRYFF YSSG	120
121	EKKDE VYLN L	VDYVP ETVY	RVARH YSRAK	QTLPV IYVKL	YMYQL FRSLA	YIHSF GICHR	180
181	DIKPQ NLLLD	PDTAV LKLCD	FGSAK QLVRG	EPNVS YICSR	YYRAPE LIFG	ATDYT SSIDV	240
241	WSAGC VLAEL	LLGQI PFPGD	SGVDQ LVEII	KVLGT PTR EQ	IREMN PNYTE	FKFPQ IKAHP	300
301	WTKVF RP RTP	PEAIA LCSRL	LEYTP TARLT	PLEAC AHSFF	DELRD PNVKL	PNGRD TPALF	360
361	NFTTQ ELSSN	PPLATI LIPP	HARIQ AAAST	PTNATA ASDA	NTGDR GQTNN	AASAS ASNST	420

blue: GSK3-beta sequence expressed in recombinant protein

¹[NCBI/Protein](#) accession number NP_001139628.1