

BTK Protein, Human (Baculovirus, His)

Cat. No.:	HY-P72048
Synonyms:	Agammaglobulinaemia tyrosine kinase; AGMX 1; AGMX1; AT; ATK; B cell progenitor kinase; B-cell progenitor kinase; BPK; Bruton agammaglobulinemia tyrosine kinase; Bruton tyrosine kinase; Bruton Tyrosine Kinase; Btk; BTK_HUMAN; dominant-negative kinase-deficient Brutons tyrosine kinase; IMD 1; IMD1; MGC126261; MGC126262; OTTHUMP00000063593; PSCTK 1; PSCTK1; truncated Bruton agammaglobulinemia tyrosine kinase; Tyrosine protein kinase BTK; Tyrosine-protein kinase BTK; tyrosine-protein kinase BTK isoform lacking exon 14; XLA
Species:	Human
Source:	Sf9 insect cells
Accession:	Q06187 (M1-S659)
Gene ID:	695
Molecular Weight:	Approximately 78.3 kDa

PROPERTIES

AA Sequence

MAAVILESIF	LKRSQQKKKT	SPLNFKKRLF	LLTVHKLSYY
EYDFERGRRG	SKKGSIDVEK	ITCVETVVPE	KNPPPERQIP
RRGEESSEME	QISIERFPY	PFQVVYDEGP	LYVFSPT EEL
RKRWIHQ LKN	VIRYNSDLVQ	KYHPCFWIDG	QYLCCSQ TAK
NAMGCQILEN	RNGSLKPGSS	HRKTKKPLPP	TPEEDQILKK
PLPPEPAAAP	VSTSELKKVV	ALYDYMPMNA	NDLQLRKGDE
YFILEESNLP	WWRARDKNGQ	EGYIPSNYVT	EAEDSIEMYE
WYSKHMTRSQ	AEQLLKQEGK	EGGFIVRDSS	KAGKYTVSVF
AKSTGDPQGV	IRHYVVCSTP	QSQYYLAEKH	LFSTIPELIN
YHQHNSAGLI	SRLKYPVSQQ	NKNAPSTAGL	GYGSWEIDPK
DLTFLKELGT	GQFGVVKYGK	WRGQYDVAIK	MIKEGSMSED
EFILEEAKVMM	NLSHEKLVQL	YGVCTKQRPI	FIITEYMANG
CLLNYLREMR	HRFQTQQLLE	MCKDVCEAME	YLESKQFLHR
DLAARNCLVN	DQGVVKV SDF	GLSRYVLDDE	YTSSVGSKFP
VRWSPPEVLM	YSKFSSKSDI	WAFGVL MWEI	YSLGKMPYER
FTNSE TAEHI	AQGLRLYRPH	LASEKVYTIM	YSCWHEKADE
RPTFKILLSN	ILDVMDEES		

Appearance Lyophilized powder.

Formulation Lyophilized from a 0.2 µm solution of Tris-based buffer, 6% Trehalose, pH 8.0.

Endotoxin Level <1 EU/µg, determined by LAL method.

Reconstitution It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH₂O.

Storage & Stability Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.

Shipping

Room temperature in continental US; may vary elsewhere.

DESCRIPTION**Background**

BTK Protein, a non-receptor tyrosine kinase, is indispensable for B lymphocyte development, differentiation, and signaling. Upon antigen binding to the B-cell antigen receptor (BCR), BTK triggers a signaling cascade leading to B-cell activation, phosphorylating PLCG2 and initiating downstream pathways involving calcium mobilization and protein kinase C (PKC) activation. Serving as a platform for diverse signaling proteins, BTK is implicated in cytokine receptor signaling pathways and is crucial in innate and adaptive immunity, particularly within the Toll-like receptors (TLR) pathway. It plays a critical role in regulating TLR9 activation in splenic B-cells and induces the activity of NF-kappa-B, contributing to the transcriptional regulation of numerous genes. Additionally, BTK activates NLRP3 inflammasome assembly, phosphorylates transcription factor GTF2I, and is involved in apoptosis regulation, highlighting its multifaceted functions in immune response and cellular processes.

Caution: Product has not been fully validated for medical applications. For research use only.

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