BTK Antibody – Rabbit Polyclonal

PRODUCT OVERVIEW

Product Name	BTK, Polyclonal Antibody
Full Product Name	BTK Antibody, Biotin conjugated
Product Gene Name	anti-BTK antibody
Product Synonym Names	Tyrosine-protein kinase BTK; Agammaglobulinemia tyrosine kinase; ATK; B-cell progenitor kinase; BPK; Bruton tyrosine kinase; BTK; AGMX1; ATK; BPK
Clonality	Polyclonal
Isotype	IgG
Host	Rabbit
Species Reactivity	Human
Form/Format	Liquid
Purity/Purification	>95%, Protein G purified
Preparation and Storage	Shipped at 4 degree C. Upon delivery aliquot and store at -20 degree C or -80 degree C. Avoid repeated freeze.
Matching Pairs	Unconjugated Antibody: BTK (MBS7047769) Biotin Conjugated Antibody: BTK (MBS7047772)
Molecular Weight	79,937 Da
OMIM	X58957 mRNA
3D Structure	ModBase 3D Structure for Q06187
Immunogen	Recombinant Human Tyrosine-protein kinase BTK protein (254-443AA)
Preservative	0.03% Proclin 300
Constituents	50% Glycerol, 0.01M PBS, PH 7.4
Conjugation	Biotin
Santa Cruz Alternative	Potential replacement for Santa Cruz Biotechnology antibody catalog# sc-1107 / sc-1108 / sc-1696
ISO Certification	Manufactured in an ISO 9001:2015 Certified Laboratory.
Applications Tested/Suitable for anti-BTK antibody	ELISA (EIA)

Related Product Information for anti-BTK antibody	Non-receptor tyrosine kinase indispensable for B lymphocyte development, differentiation and signaling. Binding of antigen to the B-cell antigen receptor (BCR) triggers signaling that ultimately leads to B-cell activation. After BCR engagement and activation at the plasma membrane, phosphorylates PLCG2 at several sites, igniting the downstream signaling pathway through calcium mobilization, followed by activation of the protein kinase C (PKC) family members. PLCG2 phosphorylation is performed in close cooperation with the adapter protein B-cell linker protein BLNK. BTK acts as a platform to bring together a diverse array of signaling proteins and is implicated in cytokine receptor signaling pathways. Plays an important role in the function of immune cells of innate as well as adaptive immunity, as a component of the Toll-like receptors (TLR) pathway. The TLR pathway acts as a primary surveillance system for the detection of pathogens and are crucial to the activation of host defense. Especially, is a critical molecule in regulating TLR9 activation in splenic B-cells. Within the TLR pathway, induces tyrosine phosphorylation of TIRAP which leads to TIRAP degradation. BTK plays also a critical role in transcription regulation. Induces the activity of NF-kappa-B, which is involved in regulating the expression of hundreds of genes. BTK is involved on the signaling pathway linking TLR8 and TLR9 to NF-kappa-B. Transiently phosphorylates transcription factor GTF2I on tyrosine residues in response to BCR. GTF2I then translocates to the nucleus to bind regulatory enhancer elements to modulate gene expression. ARID3A and NFAT are other transcriptional target of BTK. BTK is required for the formation of functional ARID3A DNA-binding complexes. There is however no evidence that BTK itself binds directly to DNA. BTK has a dual role in the regulation of apoptosis.
Other Notes	Small volumes of anti-BTK antibody vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for BTK purchase	MBS7047772 is an antibody targeting BTK. Also known as BTK Antibody, Biotin conjugated. Reactive in Human. Host: Rabbit.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for BTK. It may not necessarily be applicable to this product.

NCBI GI #	4557377
NCBI GeneID	695
NCBI Accession #	NP_000052.1
UniProt Primary Accession #	Q06187
UniProt Secondary Accession #	Q32ML5; B2RAW1
UniProt Related Accession #	Q06187
GenBank Nucleotide #	NM_000061.2
NCBI Official Full Name	tyrosine-protein kinase BTK isoform 1
NCBI Official Synonym Full Names	Bruton tyrosine kinase
NCBI Official Symbol	BTK
NCBI Official Synonym Symbols	AT; ATK; BPK; XLA; IMD1; AGMX1; PSCTK1
UniProt Protein Name	Tyrosine-protein kinase BTK
UniProt Synonym Protein Names	Agammaglobulinemia tyrosine kinase; ATK; B-cell progenitor kinase; BPK; Bruton tyrosine kinase
Protein Family	Tyrosine-protein kinase
UniProt Gene Name	BTK
UniProt Synonym Gene Names	AGMX1; ATK; BPK; ATK; BPK
UniProt Entry Name	BTK_HUMAN
NCBI Protein Information	tyrosine-protein kinase BTK

NCBI Summary for BTK	The protein encoded by this gene plays a crucial role in B-cell development. Mutations in this gene cause X-linked agammaglobulinemia type 1, which is an immunodeficiency characterized by the failure to produce mature B lymphocytes, and associated with a failure of Ig heavy chain rearrangement. Alternative splicing results in multiple transcript variants encoding different isoforms. [provided by RefSeq, Dec 2013]
UniProt Comments for BTK	Btk: a tyrosine kinase of the Tec family. Plays a crucial role in B-cell ontogeny. Defects cause X-linked agammaglobulinemia, an immunodeficiency characterized by failure to produce mature B lymphocyte cells and associated with a failure of Ig heavy chain rearrangement. Truncated splice forms found in childhood leukemias may underlie radiation resistance of tumors through inhibition of apoptosis. Protein type: EC 2.7.10.2; Kinase, protein; Protein kinase, TK; Protein kinase, tyrosine (non-receptor); TK group; Tec family Chromosomal Location of Human Ortholog: Xq21.33-q22 Cellular Component: cytoplasm; cytosol; extrinsic to internal side of plasma membrane; intracellular membrane-bound organelle; lipid raft; nucleus; plasma membrane Molecular Function: ATP binding; identical protein binding; non-membrane spanning protein tyrosine kinase activity; phosphatidylinositol-3,4,5-triphosphate binding; protein binding; protein-tyrosine kinase activity; receptor binding Biological Process: activation of NF-kappaB transcription factor; adaptive immune response; B cell activation; B cell receptor signaling pathway; calcium-mediated signaling; innate immune response; mesoderm development; MyD88-dependent toll-like receptor signaling pathway; peptidyl-tyrosine phosphorylation; positive regulation of B cell differentiation; protein amino acid phosphorylation; regulation of B cell apoptosis; regulation of B cell cytokine production; regulation of cell proliferation; transmembrane receptor protein tyrosine kinase signaling pathway Disease: Agammaglobulinemia, X-linked; Isolated Growth Hormone Deficiency, Type Iii
Research Articles on BTK	**1.** Novel BTK mutations have been described in a large cohort of North African patients with X-Linked agammagobulinemia.
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