

BTK Antibody
Purified Mouse Monoclonal Antibody (Mab)
Catalog # AP52727**Specification**

BTK Antibody - Product Information

Application	IP, WB
Primary Accession	Q06187
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Isotype	IgG1
Calculated MW	77 KDa

BTK Antibody - Additional Information**Gene ID** 695**Other Names**

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's Tyrosine Kinase;Btk;BTK_HUMAN;IMD 1;IMD1;MGC126261;MGC126262;OTTHUMP00000063593;PSCTK 1;PSCTK1;Tyrosine protein kinase BTK;Tyrosine-protein kinase BTK;XLA

DilutionIP~~1:500
WB~~1:1000**Format**

Purified mouse monoclonal antibody in PBS(pH 7.4) containing with 0.09% (W/V) sodium azide and 50% glycerol.

Storage

Store at -20 °C.Stable for 12 months from date of receipt

BTK Antibody - Protein Information**Name** BTK**Synonyms** AGMX1, ATK, BPK**Function**

Non-receptor tyrosine kinase indispensable for B lymphocyte development, differentiation and signaling (PubMed:19290921). Binding of antigen to the B-cell antigen receptor (BCR) triggers signaling that ultimately leads to B-cell activation (PubMed:19290921). 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 (PubMed:[11606584](http://www.uniprot.org/citations/11606584)). PLCG2 phosphorylation is performed in close cooperation with the adapter protein B-cell linker protein BLNK (PubMed:[11606584](http://www.uniprot.org/citations/11606584)). BTK acts as a platform to bring together a diverse array of signaling proteins and is implicated in cytokine receptor signaling pathways (PubMed:[16517732](http://www.uniprot.org/citations/16517732), PubMed:[17932028](http://www.uniprot.org/citations/17932028)). 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 (PubMed:[16517732](http://www.uniprot.org/citations/16517732)). The TLR pathway acts as a primary surveillance system for the detection of pathogens and are crucial to the activation of host defense (PubMed:[16517732](http://www.uniprot.org/citations/16517732)). Especially, is a critical molecule in regulating TLR9 activation in splenic B-cells (PubMed:[16517732](http://www.uniprot.org/citations/16517732), PubMed:[17932028](http://www.uniprot.org/citations/17932028)). Within the TLR pathway, induces tyrosine phosphorylation of TIRAP which leads to TIRAP degradation (PubMed:[16415872](http://www.uniprot.org/citations/16415872)). BTK also plays a critical role in transcription regulation (PubMed:[19290921](http://www.uniprot.org/citations/19290921)). Induces the activity of NF- kappa-B, which is involved in regulating the expression of hundreds of genes (PubMed:[19290921](http://www.uniprot.org/citations/19290921)). BTK is involved on the signaling pathway linking TLR8 and TLR9 to NF-kappa-B (PubMed:[19290921](http://www.uniprot.org/citations/19290921)). Acts as an activator of NLRP3 inflammasome assembly by mediating phosphorylation of NLRP3 (PubMed:[34554188](http://www.uniprot.org/citations/34554188)). Transiently phosphorylates transcription factor GTF2I on tyrosine residues in response to BCR (PubMed:[9012831](http://www.uniprot.org/citations/9012831)). GTF2I then translocates to the nucleus to bind regulatory enhancer elements to modulate gene expression (PubMed:[9012831](http://www.uniprot.org/citations/9012831)). ARID3A and NFAT are other transcriptional target of BTK (PubMed:[16738337](http://www.uniprot.org/citations/16738337)). BTK is required for the formation of functional ARID3A DNA-binding complexes (PubMed:[16738337](http://www.uniprot.org/citations/16738337)). There is however no evidence that BTK itself binds directly to DNA (PubMed:[16738337](http://www.uniprot.org/citations/16738337)). BTK has a dual role in the regulation of apoptosis (PubMed:[9751072](http://www.uniprot.org/citations/9751072)). Plays a role in STING1- mediated induction of type I interferon (IFN) response by phosphorylating DDX41 (PubMed:[25704810](http://www.uniprot.org/citations/25704810)).

Cellular Location

Cytoplasm. Cell membrane; Peripheral membrane protein. Nucleus Membrane raft {ECO:0000250|UniProtKB:P35991}. Note=In steady state, BTK is predominantly cytosolic. Following B-cell receptor (BCR) engagement by antigen, translocates to the plasma membrane through its PH domain Plasma membrane localization is a critical step in the activation of BTK. A fraction of BTK also shuttles between the nucleus and the cytoplasm, and nuclear export is mediated by the nuclear export receptor CRM1.

Tissue Location

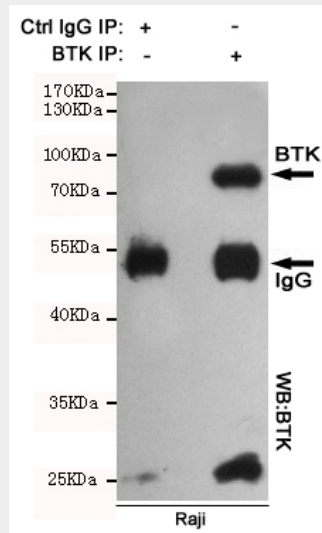
Predominantly expressed in B-lymphocytes.

BTK Antibody - Protocols

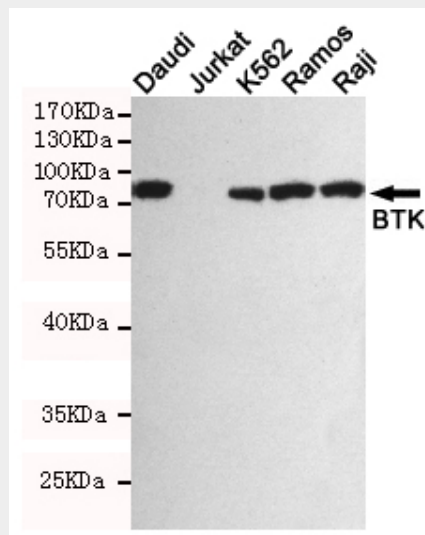
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

BTK Antibody - Images



Immunoprecipitation analysis of Raji cell lysates using BTK mouse mAb.



Western blot detection of BTK in Daudi, Jurkat (BTK negative), K562, Ramos and Raji cell lysates using BTK mouse mAb (1:1000 diluted). Predicted band size: 77KDa. Observed band size: 77KDa.

BTK Antibody - Background

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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.

BTK Antibody - References

Vetrie D.,et al.Nature 361:226-233(1993).
Vetrie D.,et al.Nature 364:362-362(1993).
Ohta Y.,et al.Proc. Natl. Acad. Sci. U.S.A. 91:9062-9066(1994).
Rohrer J.,et al.Immunogenetics 40:319-324(1994).
Hagemann T.L.,et al.Hum. Mol. Genet. 3:1743-1749(1994).

BTK Antibody - Citations

- [Intermedin facilitates hepatocellular carcinoma cell survival and invasion via ERK1/2-EGR1/DDIT3 signaling cascade](#)