

BTK Antibody (Center)
Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP20669c

Specification

BTK Antibody (Center) - Product Information

Application	WB,E
Primary Accession	Q06187
Other Accession	P35991 , Q8JH64
Reactivity	Human, Mouse
Predicted	Chicken
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	76281

BTK Antibody (Center) - Additional Information

Gene ID 695

Other Names

Tyrosine-protein kinase BTK, Agammaglobulinemia tyrosine kinase, ATK, B-cell progenitor kinase, BPK, Bruton tyrosine kinase, BTK, AGMX1, ATK, BPK

Target/Specificity

This BTK antibody is generated from a rabbit immunized with a KLH conjugated synthetic peptide between 396-430 amino acids from the Central region of human BTK.

Dilution

WB~~1:1000

E~~Use at an assay dependent concentration.

Format

Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.

Storage

Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions

BTK Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

BTK Antibody (Center) - 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](#)). PLCG2 phosphorylation is performed in close cooperation with the adapter protein B-cell linker protein BLNK (PubMed:[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](#), PubMed:[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](#)). 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](#)). Especially, is a critical molecule in regulating TLR9 activation in splenic B-cells (PubMed:[16517732](#), PubMed:[17932028](#)). Within the TLR pathway, induces tyrosine phosphorylation of TIRAP which leads to TIRAP degradation (PubMed:[16415872](#)). BTK also plays a critical role in transcription regulation (PubMed:[19290921](#)). Induces the activity of NF- kappa-B, which is involved in regulating the expression of hundreds of genes (PubMed:[19290921](#)). BTK is involved on the signaling pathway linking TLR8 and TLR9 to NF-kappa-B (PubMed:[19290921](#)). Acts as an activator of NLRP3 inflammasome assembly by mediating phosphorylation of NLRP3 (PubMed:[34554188](#)). Transiently phosphorylates transcription factor GTF2I on tyrosine residues in response to BCR (PubMed:[9012831](#)). GTF2I then translocates to the nucleus to bind regulatory enhancer elements to modulate gene expression (PubMed:[9012831](#)). ARID3A and NFAT are other transcriptional target of BTK (PubMed:[16738337](#)). BTK is required for the formation of functional ARID3A DNA-binding complexes (PubMed:[16738337](#)). There is however no evidence that BTK itself binds directly to DNA (PubMed:[16738337](#)). BTK has a dual role in the regulation of apoptosis (PubMed:[9751072](#)). Plays a role in STING1- mediated induction of type I interferon (IFN) response by phosphorylating DDX41 (PubMed:[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

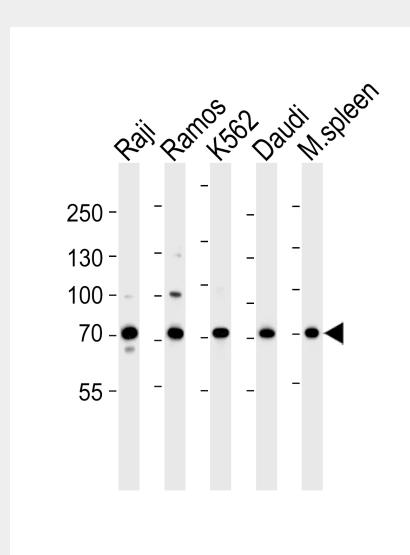
Predominantly expressed in B-lymphocytes.

BTK Antibody (Center) - Protocols

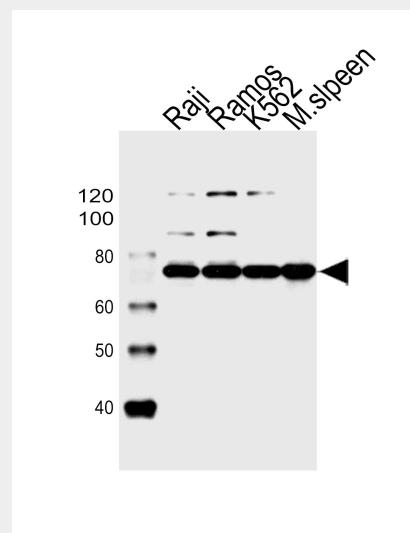
Provided below are standard protocols that you may find useful for product applications.

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

BTK Antibody (Center) - Images



Western blot analysis of lysates from Raji, Ramos, K562, Daudi cell line and mouse spleen tissue lysate (from left to right), using BTK Antibody (Center) (Cat. #AP20669c). AP20669c was diluted at 1:1000 at each lane. A goat anti-rabbit IgG H&L(HRP) at 1:5000 dilution was used as the secondary antibody. Lysates at 35ug per lane.



Western blot analysis of lysates from Raji, Ramos, K562 cell line and mouse spleen tissue lysate (from left to right), using BTK Antibody (Center) (Cat. #AP20669c). AP20669c was diluted at 1:1000 at each lane. A goat anti-rabbit IgG H&L(HRP) at 1:5000 dilution was used as the secondary antibody. Lysates at 35ug per lane.

BTK Antibody (Center) - Background

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.

BTK Antibody (Center) - 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).