

## BACKGROUND

Bruton's Tyrosine Kinase (BTK) is member of the Tec family that is critically important for the growth, differentiation and activation of myeloid-, mast- and B-cells.<sup>1</sup> BTK is activated firstly by membrane localization stimulated by PIP3 generation, and subsequently, by transphosphorylation of Tyr-551 by Src family kinases. Further activation occurs within the SH3 domain via a transphosphorylation mechanism. Tyr223 in this domain was phosphorylated by c-Abl.<sup>2</sup> Activated BTK is involved in the phosphorylation of a number of signaling molecules involved in the PLC-gamma, JNK and p38 MAPK pathways, leading to Ca<sup>2+</sup> mobilization, mRNA stabilization and the induction of NF-kappaB and AP-1 transcription factors.<sup>3</sup> BTK activity is negatively regulated by a number of proteins including inhibitor of BTK (IBTK), Sab and c-Cbl. Mutations in this enzyme are known in humans and result in the immunological disorder X-linked agammaglobulemia.<sup>4</sup>

### References:

1. Mohamed, A.J. et al: Immunol. Rev. 228:58-73, 2009
2. Backesjo, C.M. et al: Biochem. Biophys. Res. Commun. 299:510-5, 2002
3. Kurosaki, T & Hikida, M.: Immunol. Rev. 228:132-48, 2009
4. Toth, B. et al: Mol. Immunol. 46:2140-6, 2009

## TECHNICAL INFORMATION

### Source:

BTK Antibody is a mouse monoclonal antibody raised against purified recombinant human BTK protein fragments expressed in *E. coli*.

### Specificity and Sensitivity:

This antibody detects endogenous BTK proteins in normal cell lysates without cross-reactivity with other family members.

**Storage Buffer:** PBS and 30% glycerol

### Storage:

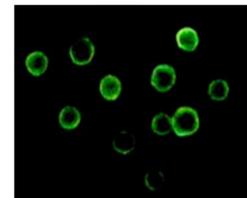
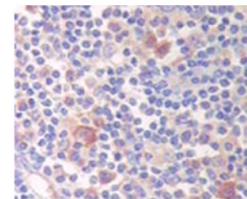
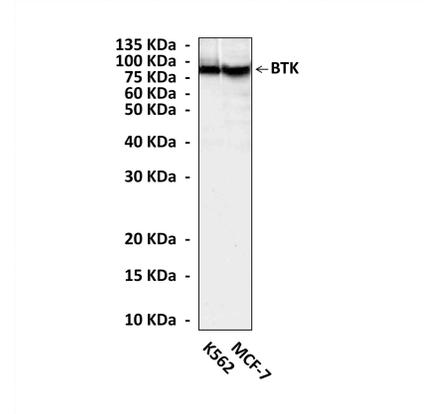
Store at -20°C for at least one year. Store at 4°C for frequent use. Avoid repeated freeze-thaw cycles.

## APPLICATIONS

Application:	*Dilution:
WB	1:500-2000
IP	1:50
IHC	1:200
ICC	1:200
FACS	n/d

*\*Optimal dilutions must be determined by end user.*

## QUALITY CONTROL DATA



**Top:** Western Blot detection of BTK proteins in various cell lysates using BTK Antibody. **Middle:** This antibody stains paraffin-embedded human lymph node tissue in immunohistochemical analysis. **Bottom:** Immunofluorescence analysis of Jurkat cells using BTK mouse antibody.

