

## 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 PLCgamma, 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:

Phospho-BTK (Tyr223) Antibody is a rabbit antibody raised against a short peptide from human BTK sequence surrounding and containing phospho-Tyr223.

### Specificity and Sensitivity:

This antibody detects endogenous phosphorylated BTK (Tyr223) proteins in normal cell lysates without cross-reactivity with other family members.

**Storage Buffer:** Rabbit IgG in phosphate buffered saline (without Mg<sup>2+</sup> and Ca<sup>2+</sup>), pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.

### Storage:

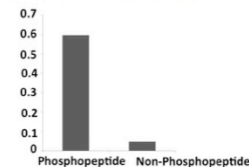
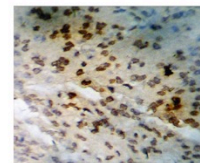
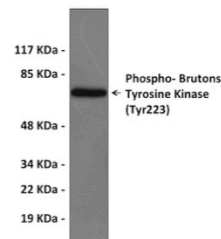
Store at -20°C for at least one year. Store at 4°C for frequent use. Avoid repeated freeze-thaw cycles.

## APPLICATIONS

Application:	*Dilution:
WB	1:500-1,000
IP	n/d
IHC	1:50-1:100
ICC	n/d
FACS	n/d
ELISA	1:40,000

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

## QUALITY CONTROL DATA



**Top:** Western blot analysis of extracts from HeLa cells treated with 10% serum for 5 minutes.  
**Middle:** Immunohistochemistry analysis of paraffin-embedded Human brain gliomas.  
**Bottom:** ELISA for Immunogen Phosphopeptide (left) and Non-Phosphopeptide (right).

