

Store at  
-20°C  
#881223

# Phospho-Btk (Tyr223) Matched Antibody Pair



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**Species Cross Reactivity:** H  
**UniProt ID:** #Q06187  
**Entrez-Gene Id:** #695

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**For Research Use Only. Not for Use in Diagnostic Procedures.**

Product Includes	Product #	Quantity	Isotype/Source
Btk (D6T2C) Mouse mAb (BSA and Azide Free)	42879	100 µg	Mouse IgG2b
Phospho-Btk (Tyr223) (D1D2Z) Rabbit mAb (BSA and Azide Free)	88632	100 µg	Rabbit IgG

## Description

The Phospho-Btk (Tyr223) Matched Antibody Pair is ideal for use with immunoassay technologies and high throughput ELISA platforms requiring antibody pairs with specialized or custom antibody labeling. Labels include fluorophores, lanthanides, biotin, and beads. Platforms requiring conjugated Matched Antibody Pairs include MSD, Quanterix Simoa, Alpha Technology (AlphaScreen, AlphaLISA, LANCE, HTRF), and Luminex.

Learn how Matched Antibody Pairs move your projects forward, faster at [cst-science.com/matched-antibody-pairs](http://cst-science.com/matched-antibody-pairs).

## Specificity/Sensitivity

This kit detects proteins from the indicated species, as determined through in-house testing, but may also detect homologous proteins from other species.

## Storage

Store at -20°C. *This product will freeze at -20°C so it is recommended to aliquot into single-use vials to avoid multiple freeze/thaw cycles.* A slight precipitate may be present and can be dissolved by gently vortexing. This will not interfere with antibody performance.

## Directions for Use

Matched Antibody Pairs include capture and detection antibodies to non-overlapping epitopes. Optimal dilutions/concentrations should be determined by the end user.

## Formulation

Supplied in 1X PBS (10 mM Na<sub>2</sub>HPO<sub>4</sub>, 3 mM KCl, 2 mM KH<sub>2</sub>PO<sub>4</sub>, and 140 mM NaCl (pH 7.8)). BSA and Azide Free.

## Background

Bruton's tyrosine kinase (Btk) is a member of the Btk/Tec family of cytoplasmic tyrosine kinases. Like other Btk family members, it contains a pleckstrin homology (PH) domain and Src homology SH3 and SH2 domains. Btk plays an important role in B cell development (1,2). Activation of B cells by various ligands is accompanied by Btk membrane translocation mediated by its PH domain binding to phosphatidylinositol-3,4,5-trisphosphate (3-5). The membrane-localized Btk is active and associated with transient phosphorylation of two tyrosine residues, Tyr551 and Tyr223. Tyr551 in the activation loop is transphosphorylated by the Src family tyrosine kinases, leading to autophosphorylation at Tyr223 within the SH3 domain, which is necessary for full activation (6,7). The activation of Btk is negatively regulated by PKCβ through phosphorylation of Btk at Ser180, which results in reduced membrane recruitment, transphosphorylation, and subsequent activation (8). The PKC inhibitory signal is likely to be a key determinant of the B cell receptor signaling threshold to maintain optimal Btk activity (8).

## Background References

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6. Rawlings, D.J. et al. (1996) *Science* 271, 822-5.
7. Park, H. et al. (1996) *Immunity* 4, 515-25.
8. Kang, S.W. et al. (2001) *EMBO J* 20, 5692-702.

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