

# Btk (D3H5) Rabbit mAb (Biotinylated)

✓ 100 µl  
(10 western blots)

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**For Research Use Only. Not For Use In Diagnostic Procedures.**

Entrez-Gene ID #695  
Swiss-Prot Acc. #Q06187

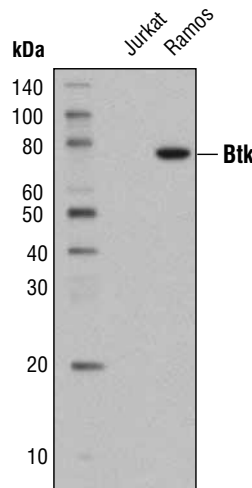
Applications W Endogenous	Species Cross-Reactivity* H, M, (R, Hm, Mk, B, Dg, Pg, Hr)	Molecular Wt. 77 kDa	Isotype Rabbit IgG
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**Description:** This Cell Signaling Technology antibody is conjugated to biotin under optimal conditions. The biotinylated antibody is expected to exhibit the same species cross-reactivity as the unconjugated Btk (D3H5) Rabbit mAb #8547.

**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).

**Specificity/Sensitivity:** Btk (D3H5) Rabbit mAb (Biotinylated) recognizes endogenous levels of total Btk protein.

**Source/Purification:** Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Asp195 of human Btk protein.



Western blot analysis of Jurkat and Ramos cell extracts using Btk (D3H5) Rabbit mAb (Biotinylated).

**Storage:** Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

**\*Biotinylated antibodies are designed to be detected using streptavidin or anti-biotin antibody conjugates.**

**Recommended Antibody Dilutions:**

Western blotting 1:1000

**For product specific protocols please see the web page for this product at www.cellsignal.com.**

**Please visit www.cellsignal.com for a complete listing of recommended complementary products.**

**Background References:**

- (1) Khan, W.N. (2001) *Immunol. Res.* 23, 147-156.
- (2) Lewis, C.M. et al. (2001) *Curr. Opin. Immunol.* 13, 317-325.
- (3) Salim, K. et al. (1996) *EMBO J.* 15, 6241-6250.
- (4) Rameh, L.E. et al. (1997) *J. Biol. Chem.* 272, 22059-22066.
- (5) Varnai, P. et al. (1999) *J. Biol. Chem.* 274, 10983-10989.
- (6) Rawlings, D.J. et al. (1996) *Science* 271, 822-825.
- (7) Park, H. et al. (1996) *Immunity* 4, 515-525.
- (8) Kang, S.W. et al. (2001) *EMBO J.* 20, 5692-5702.

**IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v BSA, 1X TBS, 0.1% Tween-20 at 4°C with gentle shaking, overnight.**