

# Phospho-c-Kit (Tyr703) (D12E12) Rabbit mAb

✓ 100 µl  
(10 western blots)

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This product is intended for research purposes only. This product is not intended to be used for therapeutic or diagnostic purposes in humans or animals.

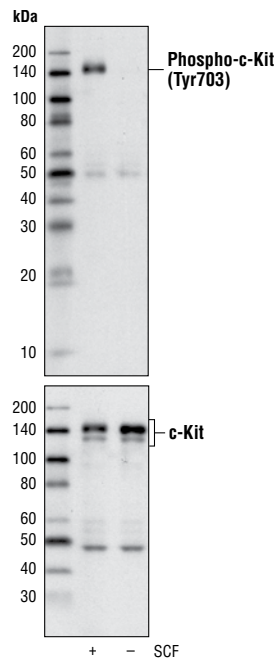
Applications W, IP Endogenous	Species Cross-Reactivity* H	Molecular Wt. 145 kDa	Isotype Rabbit IgG**
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**Background:** c-Kit is a member of the subfamily of receptor tyrosine kinases that includes PDGF, CSF-1 and FLT3/Itk-2 receptors (1,2). It plays a critical role in activation and growth in a number of cell types including hematopoietic stem cells, mast cells, melanocytes and germ cells (3). Upon binding with its stem cell factor (SCF) ligand, c-Kit undergoes dimerization/oligomerization and autophosphorylation. Activation of c-Kit results in the recruitment and tyrosine phosphorylation of downstream SH2-containing signaling components including PLC $\gamma$ , the p85 subunit of PI3 kinase, SHP2 and CrkL (4). Molecular lesions that impair the kinase activity of c-Kit are associated with a variety of developmental disorders (5), while mutations that constitutively activate c-Kit can lead to pathogenesis of mastocytosis and gastrointestinal stromal tumors (6). Tyr719 is located in the kinase insert region of the catalytic domain. c-Kit phosphorylated at Tyr719 binds to the p85 subunit of PI3 kinase *in vitro* and *in vivo* (7).

Tyr703 is also located in kinase insert of c-kit. Its phosphorylation provides a docking site for Grb2 binding (8). It was demonstrated that Tyr703 was constitutively phosphorylated in GIST tumor cells (9).

**Specificity/Sensitivity:** Phospho-c-Kit (Tyr703) (D12E12) Rabbit mAb detects endogenous levels of c-Kit only when phosphorylated at Tyr703. This antibody may cross-react with other tyrosine-phosphorylated PTKs.

**Source/Purification:** Monoclonal antibody is produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Tyr703 of human c-Kit.



Western blot analysis of extracts of H526 cells, untreated or treated with SCF, using Phospho-c-Kit (Tyr703) (D12E12) Rabbit mAb (upper) or c-Kit Antibody #3392 (lower).

Entrez-Gene ID #16590  
Swiss-Prot Acc. #P10721

**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.

\*Species cross-reactivity is determined by western blot.

\*\*Anti-rabbit secondary antibodies must be used to detect this antibody.

**Recommended Antibody Dilutions:**

Western blotting	1:1000
Immunoprecipitation	1:50

For application specific protocols please see the web page for this product at [www.cellsignaling.com](http://www.cellsignaling.com).

Please visit [www.cellsignaling.com](http://www.cellsignaling.com) for a complete listing of recommended companion products.

**Background References:**

- (1) Martin, F.H. et al. (1990) *Cell* 63, 203–11.
- (2) Yarden, Y. et al. (1987) *EMBO J* 6, 3341–51.
- (3) Gommerman, J.L. et al. (1997) *J Biol Chem* 272, 30519–25.
- (4) Sattler, M. et al. (1997) *J Biol Chem* 272, 10248–53.
- (5) Nocka, K. et al. (1990) *EMBO J* 9, 1805–13.
- (6) Hirota, S. et al. (1998) *Science* 279, 577–80.
- (7) Blume-Jensen, P. et al. (2000) *Nat Genet* 24, 157–62.
- (8) Thömmes, K. et al. (1999) *Biochem J* 341 ( Pt 1), 211–6.
- (9) Duensing, A. et al. (2004) *Oncogene* 23, 3999–4006.

**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.**

**Applications Key:** W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide  
**Species Cross-Reactivity Key:** H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine  
 Dg—dog Pg—pig Sc—S. cerevisiae Ce—C. elegans Hr—Horse All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.