

ZYMED® Laboratories

invitrogen immunodetection

Qty: 50 µg/200 µl

Rabbit anti-phospho-c-Kit (Tyr721)

Catalog No. 34-9400

Lot No.

Rabbit anti-phospho-c-Kit (Tyr721)

FORM

This polyclonal antibody is supplied as a 200 µl aliquot at a concentration of 0.25 mg/ml in phosphate buffered saline (pH 7.4) containing 0.1% sodium azide. The antibody is epitope-affinity-purified from rabbit antiserum.

PAD: ZMD.244

IMMUNOGEN

Synthetic peptide derived from the phosphorylated (Tyr721) human c-Kit (CD117 or stem cell factor receptor) protein.

SPECIFICITY

This antibody is specific for the human c-Kit protein, phosphorylated at tyrosine-721. On Western blots, this antibody identifies three forms of c-Kit: the mature, glycosylated and phosphorylated c-Kit at ~145 kDa, the immature form of c-Kit at ~125 kDa, and the soluble form of c-Kit at ~95 kDa.

REACTIVITY

Reactivity has been confirmed with the human GIST-882 (Gastrointestinal Stromal Tumor) cell line. Cross-reactivity with other species has not been confirmed. Ewing's sarcoma cell line (EWS-502) may be used as a negative control.

Sample	Western Blotting
Human	+++
Immunogen	N/A

(Excellent +++, Good++, Poor +, No reactivity 0, Not applicable N/A, Not Determined ND)

USAGE

Working concentrations for specific applications should be determined by the investigator. Appropriate concentrations will be affected by several factors, including secondary antibody affinity, antigen concentration, sensitivity of detection method, temperature and length of incubations, etc. The suitability of this antibody for applications other than those listed below has not been determined. The following concentration ranges are recommended starting points for this product.

Western Blotting: 1-3 µg/mL

STORAGE

Store at 2-8°C for up to one month. Store at -20°C for long-term storage. Avoid repeated freezing and thawing.

(cont'd)

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Invitrogen Corporation • 1600 Faraday Avenue • Carlsbad • CA 92008 • Tel: 800.955.6288 • E-mail: tech_support@invitrogen.com

P/N 34-9400

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BACKGROUND

The *c-kit* proto-oncogene is the cellular homologue of the feline sarcoma *v-kit* oncogene. It encodes a type III transmembrane receptor tyrosine kinase also known as CD117 or stem cell factor receptor (SCFR). *c-Kit* signaling is activated when a ligand known as steel factor or stem cell factor (SCF)¹ binds to the receptor. Interactions between specific phosphotyrosine residues of activated receptor tyrosine kinases (RTKs) and Src homology 2 (SH2) domains define cellular growth and differentiation signals². It has been reported that SCF stimulates the association of the p85 subunit of PI3K with the phosphorylated tyrosine-721 residue within wild type kit³. Subsequently, PI3K contributes to the activation of Akt and Jnks³.

c-Kit is necessary for the development of hematopoietic progenitors, mast cells, germ cells, melanocytes, and the interstitial cells of Cajal (ICC)⁴⁻⁵. Oncogenic *c-kit* mutations have been implicated in neoplasms arising from these stem cell lineages, such as gastrointestinal stromal tumor (GIST)⁶. The mature, phosphorylated form of *c-Kit* is a glycosylated protein with a molecular weight of ~145 kDa, while the immature form is ~125 kDa⁷.

REFERENCES

1. Fleischman RA. *Trends Genet* 9(8):285-290, 1993.
2. Herbst R, et al. *Biochemistry* 34(17):5971-5979, 1995.
3. Chian R, et al. *Blood* 98(5):1365-1373 2001.
4. Huizinga JD, et al. *Nature* 373(6512):347-349, 1995.
5. Kitamura Y, Go S. *Blood* 53(3):492-497, 1979.
6. Hirota S, et al. *Science* 279(5350):577-580, 1998.
7. Rubin BP, et al. *Cancer Res* 61(22):8118-8121, 2001.

RELATED PRODUCTS

Product	Clone or PAD*	Cat. No.
Rabbit anti-c-Kit	ZMD.238	18-7358
Mouse anti-c-Kit	1DC3	32-9000
Rabbit anti-Phospho-c-Kit (Tyr703)	ZMD.243	34-9300
Rabbit anti- Phosphotyrosine	Z-PY1	61-5800
Mouse anti-Phosphotyrosine	PY20	03-7700
Mouse anti-Phosphotyrosine-Sep 4B	PY20	03-7742
Mouse anti-Phosphotyrosine (PY-Plus™)	PY-7E1/PY-1B2/PY20	13-6600
Mouse anti-Phosphotyrosine	PY-7E1	13-5900
PS/PT/PY Antibody Sampler Pack (3 x 20 µg)		90-0200
Phosphotyrosine Antibody Sampler Pack (4 x 20 µg)		90-0100
Phosphotyrosine Antibody Inhibitor		79-0003

Protein A	Sepharose® 4B	10-1041
rec-Protein G	Sepharose® 4B	10-1241

*PAD: Polyclonal Antibody Designation

Conjugate	ZyMAX™ Goat x Rabbit IgG (H+L)	ZyMAX™ Goat x Mouse IgG (H+L)
Purified	81-6100	81-6500
FITC	81-6111	81-6511
TRITC	81-6114	81-6514
Cy™3	81-6115	81-6515
Cy™5	81-6116	81-6516
HRP	81-6120	81-6520
AP	81-6122	81-6522
Biotin	81-6140	81-6540

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