

**Qty:** 100 μg/400 μl Rabbit anti-c-Kit (CD117) **Catalog No.** 34-8800 **Lot No.** See product label

# Rabbit anti-c-Kit (CD117)

### FORM

This polyclonal antibody is supplied as a 400 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.238

#### **IMMUNOGEN**

Synthetic peptide derived from an internal sequence of the human c-Kit protein.

### SPECIFICITY

This antibody reacts with the human c-Kit (CD117 or stem cell factor receptor (SCFR)) oncoprotein. On Western blots, this antibody identifies a ~145 kDa band representing the mature (phosphorylated, glycosylated) form of c-Kit, a ~125 kDa band for the immature form, and a ~95 kDa band representing the soluble form.

#### REACTIVITY

Reactivity has been confirmed with human GIST-882 and EWS-502 cell lysates.

Sample	Western Blotting	Immuno- histochemistry (paraffin)*	ELISA
Human	+++	+++	ND
Mouse	ND	ND	ND
Immunogen	N/A	N/A	ND

(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
Immunohistochemistry*:	5-10 µg/mL

\* Prior to immunohistochemistry with paraffin-embedded tissue sections, heat induced epitope retrieval with EDTA, pH 8.0, must be performed for optimal staining results.

### STORAGE

PI348800

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

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(Rev 10/08) DCC-08-1089

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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) binds to the receptor.<sup>1</sup> Interactions between specific phosphotyrosine residues of activated receptor tyrosine kinases (RTKs) and Src homology 2 (SH2) domains define cellular growth and differentiation signals.<sup>2</sup> It has been reported that SCF stimulates the association of the p85 subunit of PI3K with the phosphorylated tyrosine-721 residue within wild type kit.<sup>3</sup> Subsequently, PI3K contributes to the activation of Akt and JNKs.<sup>3</sup>

c-Kit is necessary for the development of hematopoietic progenitors, mast cells, germ cells, melanocytes, and the interstitial cells of Cajal (ICC).<sup>4-5</sup> Oncogenic *c-kit* mutations have been implicated in neoplasms arising from these stem cell lineages, such as gastrointestinal stromal tumor (GIST).<sup>6,7</sup> The mature, phosphorylated form of c-Kit is a glycosylated protein with a molecular weight of ~145 kDa, while the immature form is ~125 kDa.<sup>7</sup>

### REFERENCES

PI348800

- 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/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-phospho-c-Kit (Tyr721)	ZMD.244	34-9400
Rabbit anti-phospho-Akt (Ser473)	ZMD.234	34-8400
Mouse anti-JNK1	4A2G12	35-9800
Protein A	Sepharose <sup>®</sup> 4B	10-1041
rec-Protein G	Sepharose <sup>®</sup> 4B	10-1241

\*PAD: Polyclonal Antibody Designation

	ZyMAX™ Goat x Rabbit IgG	ZyMAX <sup>™</sup> Goat x Mouse IgG
Conjugate	(H+L)	(H+L)
Purified	81-6100	81-6500
FITC	81-6111	81-6511
TRITC	81-6114	81-6514
Су™З	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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