



## CELL LAB Rat Anti-Mouse CD117/c-Kit

<u>Cat. No.</u>	<u>Form</u>	<u>Quantity</u>
732346	Purified (UNLB) Antibody	0.5 mg
732347	Fluorescein (FITC) Conjugate	0.5 mg
732348	Biotin (BIOT) Conjugate	0.5 mg
732349	Phycoerythrin (PE) Conjugate	0.1 mg
732350	Cyanine 5 (CY™5) Conjugate	0.1 mg

### For Laboratory Use Only

#### DESCRIPTION

**Clone:** 2B8  
**Isotype:** Rat IgG2b $\kappa$   
**Specificity:** CD117/c-Kit

The CD117/c-kit antigen is the cell-surface receptor for Stem Cell Factor (SCF). Together these molecules constitute a ligand/receptor pair which functions to maintain normal hematopoiesis in the adult.<sup>1-3</sup> Signaling through SCF/c-kit has an important role in stimulating myeloid and erythroid production of primitive hematopoietic progenitor cells.<sup>2</sup> A variety of cytokines act synergistically with SCF to stimulate proliferation and differentiation of bone marrow progenitor cells. For example, SCF plus IL-7 can stimulate the combined myeloid and B-cell differentiation of uncommitted hematopoietic progenitor cells.<sup>2</sup> SCF/c-kit also participates in erythropoiesis in both the bone marrow and spleen.<sup>1</sup> Loss-of-function mutations for SCF/c-kit lead to a variety of pleiotropic developmental defects, while gain-of-function mutations can lead to constitutive activation of the kit receptor and links to cancer.<sup>3</sup> Examples of the former are mast cell deficiency and severe macrocytic anemia, while the latter mutation has been identified in mastocytomas.<sup>3</sup> Anti-CD117 monoclonal antibodies have been used to block the function of the c-kit receptor in a variety of studies. These include the blockade of hematopoiesis<sup>1,4</sup> and disruption of melanocyte development.<sup>5</sup>

#### APPLICATIONS

- Flow cytometry<sup>1-5</sup>
- Cell homing studies<sup>1</sup>
- Hematopoiesis and development studies<sup>1-5</sup>

#### CHARACTERIZATION

To ensure lot-to-lot consistency, each batch of product is tested to conform with characteristics of a standard reference reagent using flow cytometry.

#### WORKING DILUTIONS

<b>Flow Cytometry:</b>	FITC conjugate	$\leq 1 \mu\text{g}/10^6$ cells
	BIOT conjugate	$\leq 1 \mu\text{g}/10^6$ cells
	PE conjugate	$\leq 0.2 \mu\text{g}/10^6$ cells
	CY5 conjugate	$\leq 0.2 \mu\text{g}/10^6$ cells

**Other Applications:** Since applications vary, determine the optimum working dilution of the product that is appropriate for your specific needs.

#### HANDLING AND STORAGE

- The purified (UNLB) antibody is supplied as 0.5 mg of purified immunoglobulin in 1.0 mL of 100 mM borate buffered saline, pH 8.0. No preservatives or amine-containing buffer salts added.
- The fluorescein (FITC) conjugate is supplied as 0.5 mg in 1.0 mL of PBS/Na<sub>3</sub>.

- The biotin (BIOT) conjugate is supplied as 0.5 mg in 1.0 mL of PBS/NaN<sub>3</sub>.
- The Phycoerythrin (PE) conjugate is supplied as 0.1 mg in 1.0 mL of PBS/NaN<sub>3</sub> and a stabilizing agent.
- The Cyanine 5 (CY5) conjugate is supplied as 0.1 mg in 1.0 mL of PBS/NaN<sub>3</sub>.
- Protect fluorochrome-conjugated forms from light. Do not freeze.
- Reagent is stable until the expiration date on the vial when stored at 2-8°C.

## STATEMENT OF WARNINGS

1. Specimens, samples and all material coming in contact with them should be handled as if capable of transmitting infection and disposed of with proper precautions.
2. Never pipet by mouth and avoid contact of samples with skin and mucous membranes.
3. Do not use reagent beyond the expiration date on the vial label.
4. Minimize exposure of reagent to light during storage or incubation.
5. Avoid microbial contamination of reagent or erroneous results may occur.
6. Use Good Laboratory Practice (GLP) when handling this reagent.
7. Harmful if swallowed.
8. After contact with skin, wash immediately with plenty of water.
9. Contains sodium azide. Sodium azide under acidic conditions yields hydrazoic acid, an extremely toxic compound. Azide compounds should be flushed with running water while being discarded. These precautions are recommended to avoid deposits in metal piping in which explosive conditions can develop. If skin or eye contact occurs, immediately wash excessively with water.

## TRADEMARKS


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## REFERENCES

1. Broudy VC, et al. 1996. Interaction of stem cell factor and its receptor c-kit mediates lodgement and acute expansion of hematopoietic cells in the murine spleen. *Blood*, 88:75-81.
2. Veiby OP, Lyman SD, and Jacobsen SE. 1996. Combined signaling through interleukin-7 receptors and flt3 but not c-kit potently and selectively promotes B-cell commitment and differentiation from uncommitted murine bone marrow progenitor cells. *Blood*, 88:1256-1265.
3. Piao X and Bernstein A. 1996. A point mutation in the catalytic domain of c-kit induces growth factor independence, tumorigenicity, and differentiation of mast cells. *Blood*, 87:3117-3123.
4. Sudo T, et al. 1995. Functional hierarchy of c-kit and c-fms in intramarrow production of CFU-M. *Oncogene*, 11:2469-2476.
5. Yoshida H, et al. 1996. Distinct stages of melanocyte differentiation revealed by analysis of nonuniform pigmentation patterns. *Development*, 122:1207-1214.

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