

# Mouse Anti-Human Ig $\lambda$ Monoclonal Antibody, R-PE Conjugated

## Mouse, Monoclonal (Ig $\lambda$ )

Cat. No. DMAB4749

Lot. No. (See product label)

### PRODUCT INFORMATION

**Product Overview:** Mouse Monoclonal Antibody to Human Immunoglobulin, lambda ( $\lambda$ ) light chain

**Clone:** KDC-13

**Ig Isotype:** Mouse IgG1k

**Source:** Ascites fluid

**Format:** R-phycoerythrin (R-PE) Conjugate

**Quality:** 0.1 mg

**Specificity:** Reacts with lambda light chains as demonstrated by ELISA

**Applications:** Indirect immunofluorescent staining of  $\lambda^+$  B lymphocytes; Enzyme-Linked-Immunosorbent-Assay (ELISA); Western blotting; Dot- and slot-immunoblotting; Immunohistochemistry (frozen sections); Immunocytochemistry

**Characterization:** To insure lot-to-lot consistency, each batch of product is tested by ELISA for conformance to characteristics of a standard reference reagent.

**Working Dilutions:** Immunofluorescence: R-PE conjugate  $\leq 0.1 \mu\text{g}/10^6$  cells; Other Applications: Since applications vary, you should determine the optimum working dilution of the product that is appropriate for your specific need.

**Handling And Storage:** The R-phycoerythrin (R-PE) conjugate is supplied as 0.1 mg in 1.0 mL of PBS/ $\text{NaN}_3$  and a stabilizing agent. Store at 2-8°C. Do not freeze! Each reagent is stable for the period shown on the bottle label if stored as directed.

**Warning:** Reagents contain sodium azide. Sodium azide is very toxic if ingested or inhaled. Avoid contact with skin, eyes, or clothing. Wear eye or face protection when handling. If skin or eye contact occurs, wash with copious amounts of water. If ingested or inhaled, contact a physician immediately. Sodium azide yields toxic hydrazoic acid under acidic conditions. Dilute azide-containing compounds in running water before discarding to avoid accumulation of potentially explosive deposits in lead or copper plumbing.

### BACKGROUND

**Introduction:** Lambda light chain is the smaller of the two types of polypeptide chains in immunoglobulins, consisting of an antigen-binding segment with a variable amino acid sequence, and a constant region with a relatively unchanging amino acid sequence. The lambda light chain gene is located on chromosome 22. The immunoglobulin heavy chains (G, A, M, D, or E) and light chains (kappa or lambda) are produced separately by the plasma cells in the bone marrow. The kappa and lambda molecules are attached to the heavy chains and whole immunoglobulins are assembled, and then conveyed to the surface of the plasma cell. Small amounts of free kappa and lambda light chains are found in the serum of healthy individuals since they are produced in excess. An accurate measurement of serum levels of free light chains in the presence of a great excess of bound light chains has been quite tricky for many years due to their identical structure. A number of diseases affect the production of free light chains by the plasma cells in the bone marrow, causing abnormal levels in the serum, urine or cerebrospinal fluid. Lambda along with kappa light chains can be used as a tumor marker in urine.

**Keywords:** Ig gamma 1 chain C region; IGHG1; Immunoglobulin heavy constant gamma 1; Immunoglobulin G; IgG; IgG  $\lambda$ ; Immunoglobulin G  $\lambda$ ; IgG light chain; Immunoglobulin G light chain; IgG  $\lambda$  light chain; Immunoglobulin G  $\lambda$  light chain

### REFERENCES

1. Das S, Nikolaidis N, Klein J, Nei M (2008). "Evolutionary redefinition of immunoglobulin light chain isotypes in tetrapods using molecular markers". Proc Natl Acad Sci U S A. 105 (43): 16647-52. doi:10.1073/pnas.0808800105.
2. Janeway CA, Jr. et al. (2001). Immunobiology. (5th ed.). Garland Publishing.