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Monoclonal Antibody to Human Lambda Light Chain - Purified

Catalog No.: AM33120PU-S

Quantity: 0.1 mg

Concentration: 0.2 mg/ml

Background: An antibody is a Y-shaped glycoprotein belonging to the immunoglobulin superfamily. Antibodies are produced by B lymphocytes, and utilized by the immune system to identify and neutralize bacteria, viruses and other foreign targets. Two large heavy and two small light chains connected by disulfide bonds comprise the basic structural antibody unit, and form the antibody Y shape.
There are two types of immunoglobulin light chains in mammals, lambda and kappa. Each B lymphocyte expresses only one class, either lambda or kappa. Once determined, the class remains fixed for the life of the B lymphocyte. The total kappa to lambda ratio is approximately 2:1 in serum from a healthy individual, measuring intact whole antibodies and 1:1.5 if measuring free light chains. A highly divergent kappa to lambda ratio can be indicative of a malignancy or inflammatory condition.

Host / Isotype: Mouse / IgG1

Recommended Isotype Controls: SM10P (for use in human samples), AM03095PU-N

Clone: ICO106

Immunogen: Purified Human IgG

Format:
State: Liquid purified IgG fraction from Bioreactor Concentrate
Purification: Protein A/G Chromatography
Buffer System: 10mM PBS
Preservatives: 0.05% Sodium Azide
Stabilizers: 0.05% BSA

Applications:
ELISA (Use Antibody without BSA for coating).
Western Blot: 0.5-1 µg/ml.
Immunoprecipitation: 1-2 µg/500 µg protein lysate.
Immunofluorescence: 1-2 µg/ml.
Flow Cytometry: 0.5-1 µg/10^6 cells.
Immunohistochemistry on Frozen and Fixed-Formalin Paraffin Sections: 0.5-1 µg/ml for 30 minutes at RT.
Staining of formalin-fixed tissues requires boiling tissue sections in 10mM Citrate Buffer, pH 6.0, for 10-20 min followed by cooling at RT for 20 minutes.
Positive Control: 293T, Raji or hPBL cells, Tonsil or Spleen.

Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.

Molecular Weight: ~22.5 kDa

Specificity: This Monoclonal I*C0106* antibody is specific to lambda light chain of immunoglobulin and shows no cross-reaction with lambda light chain or any of the five heavy chains.
The antibody *IC0106* detects Lambda on B lymphocytes or plasma cells, but does **not** react with T cells, monocytes, granulocytes because these cell types do not express Lambda.
The lambda antibody is also useful in immunophenotyping or identifying leukemias, plasmacytomas, and some non-Hodgkin's lymphomas. The restricted expression of a single light chain class, either kappa or lambda, is common feature among them. Demonstration of antibody clonality in an infiltrate, such as the expression of only lambda to the exclusion of kappa, indicates that the infiltrate is likely clonal and potentially malignant.
Cellular Localization: Cell Surface, Cytoplasmic and Secreted.

Species Reactivity: **Tested:** Human.

Storage: Store undiluted at 2-8°C.
DO NOT FREEZE!
Shelf life: one year from despatch.

General Readings:
1. Leung N, MA Gertz. Leuk Lymphoma doi:10.3109/10428194.2012.673229 (2012).
2. Villaverde et al. .Clin Kidney J 5:59-62 (2012).
3. Tovar N, Fernández de Larrea C, Elena M, Cibeira MT, Aróstegui JI, Rosiñol L, et al. Prognostic impact of serum immunoglobulin heavy/light chain ratio in patients with multiple myeloma in complete remission after autologous stem cell transplantation. Biol Blood Marrow Transplant. 2012 Jul;18(7):1076-9. doi: 10.1016/j.bbmt.2012.03.004. Epub 2012 Mar 16. PubMed PMID: 22430087.
4. Charafeddine KM, Jabbour MN, Kadi RH, Daher RT. Extended use of serum free light chain as a biomarker in lymphoproliferative disorders: a comprehensive review. Am J Clin Pathol. 2012 Jun;137(6):890-7. doi: 10.1309/AJCP4INKZ6LYAQXW. PubMed PMID: 22586047.
5. Baryshnikov A. et al., Gemat.Trasf. (Russian) N8, 4-7, 1990
6. Martinova T.et al., In: Problems medical biotechnology and immunological infection diseases. Vol 11, 182-186, 1996.
7. Baryshnikov A, and Tonevitsky A, Monoclonal antibodies in laboratory and clinic. Thesis p212, 1997.

Pictures: Formalin-Fixed, Paraffin-Embedded non-Hodgkin's lymphoma stained with Lambda Antibody Cat.-No AM33120PU (Clone ICO106). Note the cell membrane and cytoplasmic staining.