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Product Information

Monoclonal Anti-CD74
Clone LN-2
produced in mouse, ascites fluid

Catalog Number **C2955**

Product Description

Monoclonal Anti-CD74 (mouse IgG1 isotype) (Gene ID: 972) is derived from the LN-2 hybridoma produced by the fusion of mouse myeloma cells and splenocytes from mice immunized with nuclei from a SU-DHL-4 diffuse histiocytic human lymphoma cell line.[1] The isotype is determined by a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents (Catalog Number ISO2).

Monoclonal Anti-CD74 recognizes the cell surface MHC class II-associated invariant chain molecule (Ii) expressed on B cells, some monocytes, and interdigitating histiocytes. The antibody reacts with human mantle zone and germinal center B lymphocytes with interdigitating reticulum cells and small spindle shaped connective tissue macrophages in tonsils, lymph nodes, and spleen and with medullary B cells and dendritic cells of the thymus. It reacts with B cell lymphomas, Hodgkin's disease mononuclear cells and Reed-Sternberg cells, and some B chronic lymphocytic leukemia cells. Tubercular granuloma giant cells and intertubular kidney cells, and focal reactivity with rare cases of lung squamous cell carcinoma, transitional cell carcinoma of the urinary bladder, and of a malignant melanoma cell line are also stained.[1-9] The staining pattern of lymphocytes is described as 'perinuclear' or 'cell membrane', while that of tissue macrophages is described as cytoplasmic.

Monoclonal Anti-Human CD74 is reactive in immunoprecipitation (35 kDa), flow cytometry,[7,10] and immunohistochemistry using frozen sections or B5-solution-fixed or neutral buffered formalin-fixed, paraffin-embedded sections. Microwave treatment may enhance staining of formalin-fixed, paraffin-embedded sections by this antibody.[11]

The human CD74 antigen is a 43/41/35/33 kDa type II integral membrane glycoprotein whose amino terminus is located in the cytoplasm. It is a subset of the class II associated invariant class (Ii), which is expressed as a membrane-bound species. Minor forms of CD74 are acylated, sulphated, phosphorylated, or contain glycosaminoglycans.

There are at least four isoforms of the Ii generated by differential splicing of a common mRNA precursor. The Ii polypeptides associate with MHC class II α and β chains after synthesis in the endoplasmic reticulum and throughout intracellular transport. The membrane-bound isoform, CD74, is found on normal and neoplastic B cells, monocytes, a subset of activated T cells, macrophage subpopulations (dendritic cells and small spindle shaped connective tissue macrophages), a subset of plasma cells, and some epithelial cells. Cell surface expression of CD74 does not always correlate with cell-surface expression of HLA class II molecules (HLA-DP, -DG, -DR). Such expression of CD74 may be induced in an epithelial cell line by interferon-γ. CD74 association with MHC class II α and β chains in the endoplasmic reticulum is instrumental in prevention of binding of endogenous peptides to these molecules. Following dissociation from CD74 in an acidic compartment, class II molecules are able to bind exogenously-derived peptides. These processes are important for processing and preservation of antigens to T cells.

Reagent

Supplied as a solution in ascites fluid containing 15 mM sodium azide as a preservative.

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2–8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing is not recommended. Storage in “frost-free” freezers is also not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

Product Profile

Immunohistochemistry: a working antibody dilution of 1:200 is recommended using formalin-fixed, paraffin-embedded human tonsil sections.

Note: In order to obtain the best results using various techniques and preparations, we recommend determining optimal working dilutions by titration.

References

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