MONOCLONAL ANTIBODY TO HUMAN BASOPHILS
cloned 2D7

Catalog no: HM2279 (lot number and expiry date are indicated on the label)

Description: The monoclonal antibody 2D7 is a specific marker for basophils detecting a basophil-specific protein of 7.2-7.5 kDa localized in secretory granules. Activated basophils have been shown to have a reduced staining with the 2D7 antibody consistent with localization of the antigen to secretory granules. Basophils are multifunctional haematopoietic cells that secrete a wide variety of proinflammatory agents upon activation such as histamine and cytokines. Moreover, basophils can induce IgE production by B cells. Under normal conditions basophils are primarily produced in the bone marrow, whereas mature basophils reside in the circulation and can enter tissues at sites of inflammation. Both basophils and mast cells have been implicated in the pathogenesis of allergic inflammation due to the abundant expression of high affinity receptors for IgE. The 2D7 antibody can be used as a sensitive and precise marker for human basophils and does not react with lymphocytes, monocytes, eosinophils, neutrophils or mast cells in immunohistochemistry. Moreover, the antibody is suitable for western blot analysis of the 2D7 antigen.

Immunogen: Lysate of purified basophils

Species: Mouse IgG1

Formulation: 1 ml (100 µg/ml) 0.2 µm filtered antibody solution in PBS, containing 0.1% bovine serum albumin and 0.02% sodium azide

Application:

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<th>FC³</th>
<th>FS</th>
<th>IA</th>
<th>IP¹</th>
<th>P¹,²,³,⁴</th>
<th>W¹</th>
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N.D. = Not Determined; F = Frozen sections; FC = Flow Cytometry; FS = Functional Studies; IA = Immuno Assays; IF = Immuno Fluorescence; IP = Immunoprecipitation; P = Paraffin sections; W = Western blot

Application notes:

IF: Cytospin preparations were fixed in methanol for 15 min, incubated in methanol containing 0.6% H₂O₂ for 30 min to block endogenous peroxidase, washed in dH₂O, incubated with goat serum (1/500 dilution) for 2 h to block nonspecific staining. Blocked slides were washed with TTBS, pH7.4. (Ref.1)

FC: Antibody 2D7 stains the extracellular domain of basophils. As negative control CD203c negative cells (basophil depleted cell fractions) (Ref.3)

W: A reduced sample treatment and SDS-Page was used. The band sizes are 72 en 76 kDa (Ref.1).

IHC-P: Fresh surgical tissues were fixed in Carnoy’s fluid for 24 h and transferred to absolute ethanol. Tissues were embedded in paraffin, and 4-µm sections were prepared. Tissue sections were dewaxed in xylene and rehydrated in graded ethanol solutions. Endogenous peroxidase was inhibited. (Ref.1)

IHC-F: Sections were fixed in either 10% NBF or Carnoy’s fluid for 15 minutes at RT. NBF-fixed tissue sections were digested with 0.1% protease in TTBS for 20 min at RT. Endogenous peroxidase activity was inhibited by methanol with 0.6% H₂O₂ for 30 min at RT. Blocked by incubation in horse serum at 1:20 dilution in TTBS for 1 hr at RT. 2D7 at a 1:300 dilution in TTBS overnight at 4°C or with a murine mAb of undetermined specificity (MOPC31-C) as a negative control. (Ref.2)

References:

Use

For immunohistochemistry, flow cytometry and Western blotting, dilutions to be used depend on detection system applied. It is recommended that users test the reagent and determine their own optimal dilutions. The typical starting working dilution is 1:50. For functional studies, in vitro dilutions have to be optimized in user’s experimental setting.

Positive control

Chronic myeloid leukaemia (basophilia)

Negative control

CD203c negative cells (basophil depleted cell fractions)

Storage and stability

Product should be stored at 4°C. Under recommended storage conditions, product is stable for at least one year. The exact expiry date is indicated on the label

Precautions

For research use only. Not for use in or on humans or animals or for diagnostics. It is the responsibility of the user to comply with all local/state and federal rules in the use of this product. Hycult Biotech is not responsible for any patent infringements that might result from the use or derivation of this product.

Also available

HM2154  Monoclonal antibody against human apoptotic neutrophils, clone BOB93
HM2158  Monoclonal antibody against human macrophages mature, clone 25F9