For Research Use Only. Not for use in diagnostic procedures.

SPECIFICITY

The CD136 antigen, also known as récepteur d’origine nantais (RON) (1), macrophage-stimulating protein receptor (MSP-R) (2, 3), stem cell-derived tyrosine kinase (STK) (3), is the product of the ron gene (4). The CD136 antigen is a member of the hepatocyte growth factor / scatter factor (HGF/SF) receptor family (5). It is a heterodimeric protein consisting of an α chain (40 kDa) and a β chain (150 kDa) linked by a disulfide bond, and originated by proteolytic cleavage of a single-chain precursor of 185 kDa (4, 6).

The β chain is a type I integral to membrane protein (with an extracellular region, a transmembrane segment, and an intracellular tyrosine kinase domain). The α chain is exclusively extracellular (4). As other members of the HGF/SF receptor family, the CD136 antigen controls a complex genetic program involving cell survival and expansion, as well as motility programs related to invasive growth (7 – 9). The macrophage-stimulating protein (MSP)-CD136 signaling pathway has been implicated in the functional regulation of mononuclear phagocytes (7). In the erythropoiesis, CD136 signaling induces the phosphorylation of Grb2-associated binder-1 docking molecule (Gab1), expanding the signaling platform (signalosome) of the EPO receptor (Epor), and contributing to erythroblasts renewal, but not to their differentiation (8). MSP-induced activation of CD136 results in trans-phosphorylation of Gab1, but not of signal transducer and activator of transcription 5 (Stat5) (9). MSP binding to CD136 on bronchial epithelial cells induces autophosphorylation of CD136 on tyrosine residues; on human nasal cilia, it leads to a significant increase of ciliary beating activity (10). The CD136 antigen, also known as récepteur d’origine nantais (RON)-PE Conjugated Antibody

APPLICATION

This reagent, designed for use in flow cytometry, may be used for studying CD136 antigen cell surface expression.

STATEMENTS OF WARNING

1. This reagent contains 0.1% sodium azide. Sodium azide under acid 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, wash excessively with water.

2. Specimens, samples and all material coming in contact with them should be handled as if they might transmit infection and disposed of with proper precautions.

3. Never pipet by mouth and avoid contact of samples with skin and mucous membranes.

4. Do not use antibody beyond the expiration date on the label.

5. Do not expose reagents to strong light.

6. Do not freeze.

7. Use good laboratory practises when handling this reagent.

STORAGE CONDITIONS AND STABILITY

This reagent is stable up to the expiration date when stored at 2 – 8°C in the dark. Do not freeze.

REAGENT PREPARATION

No reconstitution is necessary. This monoclonal antibody may be used directly from the vial. Bring reagent to 18 – 25°C prior to use.

PROCEDURE

This reagent is designed for flow cytometry. Assay volume: 20 µL per 5 x 10^6 cells in one test, or per 100 µL whole blood. A wash is required to yield optimal results.

EXAMPLE DATA

The histogram below is a monoparametric representation (Count versus Fluorescence Intensity) of MDCK-RE7, a CD136 trans-fected cell line. Staining with CD136 (RON)-PE. The unshaded area represents the staining with the isotypic control IgG2a-PE (See catalog for PN). Acquisition is with a COULTER® EPICS® XL™ flow cytometer. Analysis is with the Cytomine CXP analysis software.

ACQUISITION

Acquisition is with a COULTER® EPICS® XL™ flow cytometer. Analysis is with the Cytomine CXP analysis software.

SELECTED RESEARCH REFERENCES


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