MONOCLONAL ANTIBODY TO MOUSE SCAVENGER RECEPTOR CLASS A (SR-A) (CD204)
clone 2F8

Catalog no: HM1061 (lot number and expiry date are indicated on the label)

Description: The monoclonal antibody 2F8 recognizes mouse scavenger receptor class A (SR-A), type I and II, also known as CD204. SR-A belongs to the group of scavenger receptors, which are divided in class A, B, D and E. Class A scavenger receptors (SRs) are multi-domained membrane glycoproteins that can endocytose modified lipoproteins and bind a wide range of ligands. SR-A is expressed by tissue macrophages and functions both as an endocytic receptor for lipoproteins and as an adhesion receptor for macrophages binding to ligand rich tissues e.g. atherosclerotic lesions. Tissue macrophage populations that express SR-A I and II include those of the marginal zone of the spleen, alveolar macrophages, heart and gut. SR-A binds bacterial pathogens and is considered to play a role in the innate immune response. TLR2 and TLR4 agonists synergistically up-regulate SR-A in RAW264.7 through p38 pathway. SR-A knockout mice are more susceptible to endotoxic shock than wild type mice, which suggests a role in the clearance of bacterial endotoxin from the circulation. Using thymic macrophages of the knockout mice as well as antibody treatment confirmed that SR-A is responsible for half of the phagocytic activity required for apoptotic thymocyte ingestion. Next to its role in innate immunity there is evidence that SR-A also contributes to acquired immune responses.

Monoclonal antibody 2F8 recognizes an epitope within the α-helical coiled-coil domain of SR-A in all mouse strain tested, with the exception of C57BL/6. One amino-acid change (L168S), due to polymorphism, results in the loss of reactivity of antibody 2F8.

Aliases: CD204

Immunogen: RAW.264 cells (α-helical coiled coil domain CD204)

Species: Rat IgG2b

Cross reactivity:

<table>
<thead>
<tr>
<th>Cross reactant</th>
<th>Reactivity</th>
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<tbody>
<tr>
<td>CD204</td>
<td>No (due to L168S)</td>
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<tr>
<td>C57Bl/6</td>
<td>No (due to L168S)</td>
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</tbody>
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Formulation: 1 ml (100 µg/ml) 0.2 µm filtered antibody solution in PBS, containing 0.1% bovine serum albumin.

Application:

<table>
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<tr>
<th>Application</th>
<th>F³,⁵</th>
<th>FC</th>
<th>FS¹,₃,⁶</th>
<th>IA</th>
<th>IF</th>
<th>IP³</th>
<th>P</th>
<th>W⁵</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 = Immuno Precipitation; P = Paraffin sections; W = Western blot

Application notes:

FC: Antibody 2F8 stains the extracellular domain of mouse SR-A. RAW.264 cells were fixed in paraformaldehyde before staining. As positive control RAW.264 cells were used and as negative control isotype matched antibody.

W: A non-reduced sample treatment and SDS-PAGE was used. The band sizes are 156-238 kDa (Ref.5).

IHC-F: Tissue sections were fixed in 2 % paraformaldehyde in Hepes buffered saline and pretreated with 0.01 M glucose, 0.001 M NaN₃, 40 U glucose oxidase in PBS for 15 minutes at 37 °C to quench endogenous peroxidases. As positive control spleen was used and as negative control isotype matched antibody (Ref.3).

FS: Antibody 2F8 functions as inhibitor of EDTA-resistant adhesion of macrophages to frozen tissue section. Furthermore, it antagonizes acetylated low-density lipoprotein-induced cholesterol esterification in MPM. The biological activity of the antibody can be defined as the ability to inhibit the divalent cation-independent component of macrophage adhesion (Ref.3,5).

References:
1. Fraser, I et al; Divalent cation-independent macrophage adhesion inhibited by monoclonal antibody to murine scavenger receptor. Nature 1993, 364: 343
2. Bell, D et al; Upregulation of the macrophage scavenger receptor in response to different forms of...
injury in the CNS. J Neurocytol 1994, 10: 605
5. Daugherty, A et al; Polymorphism of class A scavenger receptors in C57BL/6 mice. J Lipid Res 2000, 41: 1568

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
RAW.264 cells

Negative control
Macrophages from C57Bl/6 mice

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
HM2122 Monoclonal antibody against Human CD36, clone FA6-152