Mouse Integrin α10 Antibody
Monoclonal Rat IgG_2A Clone # 885501
Catalog Number: MAB9757

DESCRIPTION
Species Reactivity  Mouse
Specificity     Detects mouse Integrin α10 in direct ELISAs. In direct ELISAs, no cross-reactivity with recombinant mouse Intagrin α2β1 was observed.
Source          Monoclonal Rat IgG_2A Clone # 885501
Purification    Protein A or G purified from hybridoma culture supernatant
Immunogen       Chinese hamster ovary cell line CHO-derived recombinant mouse Integrin α10β1 Phe23-Thr1119 (Integrin α10) and Gln21-Asp728 (Integrin β1)
Accession #     NP_001289400.1 (Integrin α10) and P09055 (Integrin β1)
Formulation     Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.
*Small pack size (-SP) is supplied either lyophilized or as a 0.2 μm filtered solution in PBS.

APPLICATIONS
Please Note: Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.

<table>
<thead>
<tr>
<th>Recommended Concentration</th>
<th>Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flow Cytometry</td>
<td>0.25 μg/10^6 cells</td>
</tr>
<tr>
<td>CyTOF-ready</td>
<td>Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.</td>
</tr>
</tbody>
</table>

DATA

Detection of Integrin alpha 10 in C2C12 Mouse Cell Line by Flow Cytometry.
C2C12 mouse myoblast cell line was stained with Rat Anti-Mouse Integrin alpha 10 Monoclonal Antibody (Catalog # MAB9757, filled histogram) or Rat IgG2A isotype control antibody (Catalog # MAB006, open histogram) followed by Goat anti-Rat IgG APC-conjugated secondary antibody (Catalog # F0113). View our protocol for Staining Membrane-associated Proteins.

PREPARATION AND STORAGE
Reconstitution    Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping          The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
*Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage Use a manual defrost freezer and avoid repeated freeze-thaw cycles.
- 12 months from date of receipt, -20 to -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 6 months, -20 to -70 °C under sterile conditions after reconstitution.
BACKGROUND

Integrin α10β1 is one of twelve integrin family adhesion receptors that share the β1 subunit (1-3). The non-covalent heterodimer of 160 kDa α11 and 130 kDa β1/CD29 type I transmembrane glycoprotein subunits is expressed mainly on chondrocytes within cartilage, but also in fibrous connective tissues such as heart valves and ligaments (3, 4). The α10 extracellular domain (ECD) contains an I (inserted) domain which includes the ligand binding site (2, 3, 5). The β1 ECD contains a vWFA domain, which participates in binding. Each subunit then has a transmembrane sequence and a short cytoplasmic tail. The dimer is folded when it is least active. Divalent cations and intracellular (inside-out) signaling convert it to its most active, extended and open conformation (1, 2). The 1100 amino acid (aa) mouse α10 extracellular domain (ECD) shares 96% aa sequence identity with rat and 88-89% with human, rabbit, porcine, canine and bovine α10, while the 708 aa mouse β1 ECD shares 98% aa identity with rat and 93-94% with human, bovine, porcine, ovine, canine and feline β1. A potential mouse α10 splice variant diverges at aa 1039 and is terminated prematurely. If translated, this variant would result in a secreted protein (6). I domain-containing β1 integrins α11β1, α2β1, α10β1 and α1β1 all bind collagens; all but α11β1 also bind laminins (5, 7, 8). During cartilage differentiation, α10β1 is thought to be the main integrin binding type II and IX cartilage collagens (3-5, 7-10). However, deletion of mouse α10 causes a mild phenotype including slightly shortened bones and narrowed hypertrophic zones, indicating that another collagen-binding integrin, likely α2β1, may compensate for α10β1 functions (11). Migration of melanoma cells has been noted to correlate with α10β1 expression (12).

References: