

## Product datasheet for **AM20011RP-N**

### Integrin alpha-7 / ITGA7 Mouse Monoclonal Antibody [Clone ID: 3C12]

#### Product data:

Product Type:	Primary Antibodies
Clone Name:	3C12
Applications:	FC
Recommended Dilution:	<b>Flow Cytometry:</b> 20 µl (Ready for Use). <i>Positive Control:</i> C2C12. Detailed Procedure is provided in the following <b>Protocols</b> .
Reactivity:	Mouse
Host:	Mouse
Isotype:	IgG1
Clonality:	Monoclonal
Immunogen:	Mouse myoblasts.
Specificity:	This antibody reacts with Mouse Integrin alpha-7 on Flow Cytometry.
Formulation:	PBS containing 1% BSA as stabilizer and 0.09% Sodium Azide as preservative. Label: PE State: Liquid purified IgG fraction.
Purification:	Protein-A Agarose Chromatography.
Conjugation:	PE
Storage:	Store the antibody undiluted at 4 °C.
Stability:	Shelf life: one year from despatch.
Database Link:	<a href="#">Q61738</a>



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**Background:**

The integrin family of adhesion molecules participate in important cell-cell and cell-extracellular matrix interactions in a diverse range of biological processes. Integrins are heterodimers consisting of an alpha subunit and a beta subunit. Both alpha and beta subunits are transmembrane proteins with large extracellular domains (>100 kDa for alpha subunit and >75 kDa for beta subunit) that interact with extracellular matrix proteins and relatively small cytoplasmic domains (50 amino acids or less, except for the beta-4 subunit) that interact with cytoskeletal proteins. The adhesiveness of integrins is dynamically regulated in response to cytoplasmic signals, termed “inside-out” signaling. It has been reported that, upon ligand binding, integrins regulate many intracellular signaling pathways that involve cytoplasmic alkalization, intracellular Ca<sup>2+</sup> fluctuation, inositol lipid metabolism, protein kinase C, MAP kinase and phosphatidylinositol kinase. Integrin alpha-7 is a specific cellular receptor for the basement membrane protein laminin-1, as well as for the laminin isoforms-2 and -4. The alpha-7 subunit is expressed mainly in skeletal and cardiac muscle and may be involved in differentiation and migration processes during myogenesis. Absence of integrin alpha-7 results in muscular dystrophy is revealed.

**Note:**

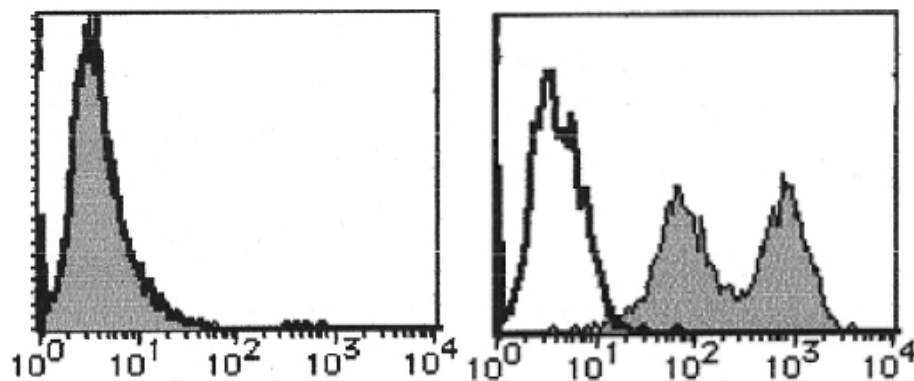
This product was originally produced by MBL International.

**Protocol: Flow Cytometric Analysis for Floating Cells**

We usually use Fisher tubes or equivalents as reaction tubes for all step described below.

- 1) Wash the cells 3 times with washing buffer [PBS containing 2% fetal calf serum (FCS) and 0.1% NaN<sub>3</sub>].
- 2) Resuspend the cells with washing buffer (5x10<sup>6</sup> cells/mL).
- 3) Add 50 µL of the cell suspension into each tube, and centrifuge at 500 x g for 1 minute at room temperature (20~25°C). Remove supernatant by careful aspiration.
- 4) Add 10 µL of normal goat serum containing 1 mg/mL normal human IgG and 0.1% NaN<sub>3</sub> to the cell pellet after tapping. Mix well and incubate for 5 minutes at room temperature.
- 5) Add 20 µL the PE labeled anti-mouse Integrin alpha-7 monoclonal antibody (3C12). Mix well and incubate for 30 minutes at room temperature.
- 6) Add 1 mL of the washing buffer followed by centrifugation at 500 x g for 1 minute at room temperature. Remove supernatant by careful aspiration.
- 7) Resuspend the cells with 500 µL of the washing buffer and analyze by a flow cytometer.

Positive Control for Flow Cytometry: C2C12

**Product images:**

Flow Cytometric analysis of mouse Integrin alpha-7 expression on NIH/3T3 (Left) and C2C12 (Right). Open Histogram indicates the reaction of Isotypic Control to the cells. Shaded Histograms indicate the reaction of ITGA7 antibody to the cells.