

**MOUSE ANTI-INTEGRIN beta1D
MONOCLONAL ANTIBODY**

CATALOG NUMBER:	MAB1900	QUANTITY:	100 µg
LOT NUMBER:		CONCENTRATION:	1 mg/mL
CLONE NAME:	2B1	HOST/ISOTYPE:	Ms IgG ₁
ALTERNATE NAMES:	CD29	EPITOPE:	C-terminus; cytoplasmic

BACKGROUND: Integrins are a family of heterodimeric membrane glycoproteins consisting of non-covalently associated alpha and beta subunits. More than 18 alpha and 8 beta subunits with numerous splice variant isoforms have been identified in mammals. In general, integrins function as receptors for extracellular matrix proteins. Certain integrins can also bind to soluble ligands or to counter-receptors on adjacent cells, such as the intracellular adhesion molecules (ICAMs), resulting in aggregation of cells. Signals transduced by integrins play a role in many biological processes, including cell growth, differentiation, migration and apoptosis. There are two major forms of integrin beta 1:beta 1A and beta 1D which differ in 13 amino acids. Their distribution pattern in adult tissues is mutually exclusive. Beta1A is present in all tissues, except cardiac and skeletal muscle, which instead express the beta1D variant.

SPECIFICITY: MAB1900 is specific for the cytoplasmic domain of integrin beta1D subunit. Integrin beta1D is present in cardiac and skeletal muscle. In proliferating C2C12 cells, beta1D is not expressed; C2C12 after differentiation into myotubes, however, express high levels of beta1D integrin. beta1D integrin was also found expressed in adult mouse extracts from heart, hind limb muscle, and tongue, with a faint band in skin. No reactivity was observed in extracts from lung, kidney, liver, or spleen {van der Flier et al, 1997}.

APPLICATIONS: Western Blot: 1:100-1:1000; recognizes a 116kDa band in reduced, 7% PAGE-SDS westerns in differentiated C2C12 cells and some adult tissues {See van der Flier, 1997}. 1% SDS lysis buffer is recommended over RIPA or traditional reducing sample buffer. Immunohistochemistry: 1:25-1:200; frozen, unfixed tissue sections, post-fixed with 2% PFA after primary and secondary antibody additions {van der Flier, 1997}. Alternatively, 4-7 µm cryosections fixed with cold acetone for 2 minutes and stored at -80°C until used. Air-dried sections are rehydrated in PBS prior to use; detection via avidin-biotinylated HRP complex {ABC} systems is encouraged. Immunocytochemistry
Optimal working dilutions must be determined by end user.

SPECIES REACTIVITY: Human, mouse, and dog. Reactivity with other species has not been confirmed. Although untested, a broad species reactivity is expected due to the conserved nature of the epitope.

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- IMMUNOGEN:** Synthetic peptide including an appending N-terminal cysteine: CQENPIYKSPINNFKNPNYGRKAGL coupled to KLH.
- PRESENTATION:** Purified immunoglobulin, liquid in PBS containing 0.09% sodium azide.
- STORAGE/HANDLING:** Maintain at 2-8°C in undiluted aliquots for up to 12 months from date of receipt.
- REFERENCES:**
- Cachaco, AS et al. (2003). Knock-in of integrin β 1D affects primary but not secondary myogenesis in mice . *Develop* **130**: 1659-1671.
- Baudoin, C. et al. (1998). Knockout and knockin of the 1 exon D define distinct roles for integrin splice variants in heart function and embryonic development . *Genes & Develop* **12(8)**: 1202-1216.
- van der Flier, et al. (1997). Spatial and temporal expression of the beta-1D integrin during mouse development {original article}. *Develop Dyn* **210(4)**: 472-486.
- Related : Yurchenco, PD et al. (2004). Loss of basement membrane, receptor and cytoskeletal lattices in a laminin-deficient muscular dystrophy. *J Cell Sci* **117(5)**: 735-742.

Important Note: *During shipment, small volumes of product will occasionally become entrapped in the seal of the product vial. For products with volumes of 200 μ L or less, we recommend gently tapping the vial on a hard surface or briefly centrifuging the vial in a tabletop centrifuge to dislodge any liquid in the container's cap.*

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