

Integrin $\alpha 7$ (E-2): sc-515716

BACKGROUND

Integrins are heterodimers composed of noncovalently associated transmembrane α and β subunits. The 16 α and 8 β subunits heterodimerize to produce more than 20 different receptors. Most integrin receptors bind ligands that are components of the extracellular matrix, including fibronectin, collagen and vitronectin. Certain integrins can also bind to soluble ligands such as fibrinogen, or to counterreceptors on adjacent cells such as the intracellular adhesion molecules (ICAMs), leading to aggregation of cells. Ligands serve to cross-link or cluster integrins by binding to adjacent integrin receptors; both receptor clustering and ligand occupancy are necessary for the activation of integrin-mediated responses. In addition to mediating cell adhesion and cytoskeletal organization, integrins function as signaling receptors. Signals transduced by integrins play a role in many biological processes, including cell growth, differentiation, migration and apoptosis.

REFERENCES

1. Hynes, R.O. 1992. Integrins: versatility, modulation, and signaling in cell adhesion. *Cell* 69: 11-25.
2. Miyamoto, S., et al. 1995. Synergistic roles for receptor occupancy and aggregation in integrin transmembrane function. *Science* 267: 883-885.
3. Clark, E.A. and Brugge, J.S. 1995. Integrins and signal transduction pathways: the road taken. *Science* 268: 233-239.

CHROMOSOMAL LOCATION

Genetic locus: ITGA7 (human) mapping to 12q13.2; Itga7 (mouse) mapping to 10 D3.

SOURCE

Integrin $\alpha 7$ (E-2) is a mouse monoclonal antibody raised against amino acids 878-917 mapping within an extracellular domain of Integrin $\alpha 7$ of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Integrin $\alpha 7$ (E-2) is available conjugated to agarose (sc-515716 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-515716 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515716 PE), fluorescein (sc-515716 FITC), Alexa Fluor[®] 488 (sc-515716 AF488), Alexa Fluor[®] 546 (sc-515716 AF546), Alexa Fluor[®] 594 (sc-515716 AF594) or Alexa Fluor[®] 647 (sc-515716 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-515716 AF680) or Alexa Fluor[®] 790 (sc-515716 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

In addition, Integrin $\alpha 7$ (E-2) is available conjugated to biotin (sc-515716 B), 200 μ g/ml, for WB, IHC(P) and ELISA.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

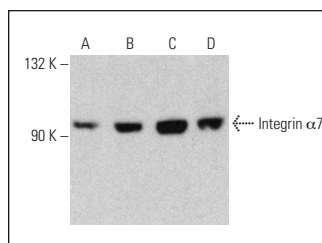
Integrin $\alpha 7$ (E-2) is recommended for detection of precursor and mature heavy chain Integrin $\alpha 7$ of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Integrin $\alpha 7$ siRNA (h): sc-60018, Integrin $\alpha 7$ siRNA (m): sc-43131, Integrin $\alpha 7$ shRNA Plasmid (h): sc-60018-SH, Integrin $\alpha 7$ shRNA Plasmid (m): sc-43131-SH, Integrin $\alpha 7$ shRNA (h) Lentiviral Particles: sc-60018-V and Integrin $\alpha 7$ shRNA (m) Lentiviral Particles: sc-43131-V.

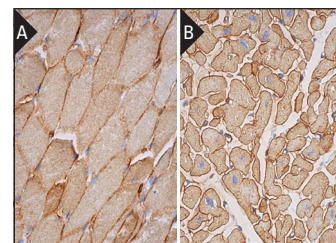
Molecular Weight of Integrin $\alpha 7$: 97 kDa.

Positive Controls: C2C12 whole cell lysate: sc-364188, Sol8 cell lysate: sc-2249 or L8 cell lysate: sc-3807.

DATA



Integrin $\alpha 7$ (E-2): sc-515716. Western blot analysis of Integrin $\alpha 7$ expression in Sol8 (A), L8 (B), L6 (C) and C2C12 (D) whole cell lysates.



Integrin $\alpha 7$ (E-2): sc-515716. Immunoperoxidase staining of formalin fixed, paraffin-embedded human skeletal muscle (A) and human heart muscle (B) tissue showing membrane and cytoplasmic staining of myocytes.

SELECT PRODUCT CITATIONS

1. Mohanty, A., et al. 2020. A non-genetic mechanism involving the Integrin $\beta 4$ /paxillin axis contributes to chemoresistance in lung cancer. *iScience* 23: 101496.
2. Luo, W., et al. 2021. TMEM182 interacts with Integrin $\beta 1$ and regulates myoblast differentiation and muscle regeneration. *J. Cachexia Sarcopenia Muscle* 12: 1704-1723.
3. Han, S., et al. 2022. Association between decreased ITGA7 levels and increased muscle α -Synuclein in an MPTP-induced mouse model of Parkinson's disease. *Int. J. Mol. Sci.* 23: 5646.
4. Cloutier, G., et al. 2023. Integrin $\alpha 7\beta 1$ represses intestinal absorptive cell differentiation. *Exp. Cell Res.* 430: 113723.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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