SANTA CRUZ BIOTECHNOLOGY, INC.

Pax-7 (PAX7): sc-81648

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The Pax gene family of nuclear transcription factors is comprised of nine members that function during embryogenesis to regulate the temporal and position-dependent differentiation of cells. In addition, the family is involved in a variety of signal transduction pathways in the adult organism. Mutations in the Pax family of proteins have been linked to disease and cancer in humans. Pax-7 is a protein specifically expressed in cultured satellite cell-derived myoblasts. *In situ* hybridization reveals that Pax-7 is also expressed in satellite cells residing in adult muscle. A chromosomal aberration in the gene encoding Pax-7 causes rhabdomyosarcoma 2 (RMS2) (also called alveolar rhabdomyosarcoma).

CHROMOSOMAL LOCATION

Genetic locus: PAX7 (human) mapping to 1p36.13; Pax7 (mouse) mapping to 4 D3.

SOURCE

Pax-7 (PAX7) is a mouse monoclonal antibody raised against amino acids 352-523 of Pax-7 of avian origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Pax-7 (PAX7) is available conjugated to either Alexa Fluor® 488 (sc-81648 AF488), Alexa Fluor® 546 (sc-81648 AF546) or Alexa Fluor® 594 (sc-81648 AF594), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-81648 AF680) or Alexa Fluor® 790 (sc-81648 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

In addition, Pax-7 (PAX7) is available conjugated to biotin (sc-81648 B), 200 µg/ml, for WB, IHC(P) and ELISA.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

Pax-7 (PAX7) is recommended for detection of Pax-7 of mouse, rat, human and avian origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for Pax-7 siRNA (h): sc-38749, Pax-7 siRNA (m): sc-38750, Pax-7 shRNA Plasmid (h): sc-38749-SH, Pax-7 shRNA Plasmid (m): sc-38750-SH, Pax-7 shRNA (h) Lentiviral Particles: sc-38749-V and Pax-7 shRNA (m) Lentiviral Particles: sc-38750-V.

Molecular Weight of Pax-7: 57 kDa.

Positive Controls: RD whole cell lysate: sc-364791 or HT-1080 whole cell lysate: sc-364183.

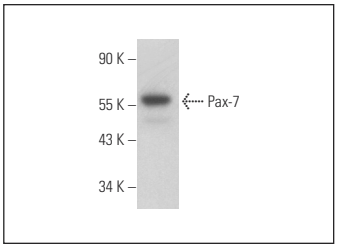
STORAGE

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

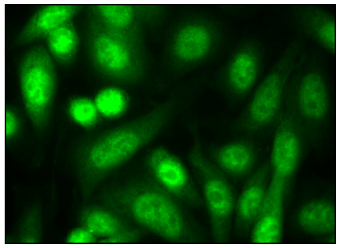
RESEARCH USE

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

DATA



Pax-7 (PAX7): sc-81648. Western blot analysis of Pax-7 expression in HT-1080 whole cell lysate.



Pax-7 (PAX7) Alexa Fluor® 488: sc-81648 AF488. Direct immunofluorescence staining of formalin-fixed SW480 cells showing nuclear and cytoplasmic localization. Blocked with UltraCruz® Blocking Reagent: sc-516214.

SELECT PRODUCT CITATIONS

1. Nikolaou, S., et al. 2011. Impaired growth of denervated muscle contributes to contracture formation following neonatal brachial plexus injury. J. Bone Joint Surg. Am. 93: 461-470.
2. Grabowska, I., et al. 2012. Restricted myogenic potential of mesenchymal stromal cells isolated from umbilical cord. Cell Transplant. 21: 1711-1726.
3. Stratos, I., et al. 2013. Vitamin D increases cellular turnover and functionally restores the skeletal muscle after crush injury in rats. Am. J. Pathol. 182: 895-904.
4. Fujita, N., et al. 2014. Effects of hyperbaric oxygen at 1.25 atmospheres absolute with normal air on macrophage number and infiltration during rat skeletal muscle regeneration. PLoS ONE 9: e115685.
5. Cosgrove, B.D., et al. 2014. Rejuvenation of the muscle stem cell population restores strength to injured aged muscles. Nat. Med. 20: 255-264.
6. Biferi, M.G., et al. 2015. Proliferation of multiple cell types in the skeletal muscle tissue elicited by acute p21 suppression. Mol. Ther. 23: 885-895.
7. Martinet, C., et al. 2016. H19 controls reactivation of the imprinted gene network during muscle regeneration. Development 143: 962-971.
8. Beyer, S., et al. 2016. Canonical Wnt signalling regulates nuclear export of Setdb1 during skeletal muscle terminal differentiation. Cell Discov. 2: 16037.
9. Ito, N., et al. 2016. Enhancement of satellite cell transplantation efficiency by leukemia inhibitory factor. J. Neuromuscul. Dis. 3: 201-207.
10. Nakanishi, R., et al. 2016. Nucleoprotein supplementation enhances the recovery of rat soleus mass with reloading after hindlimb unloading-induced atrophy via myonuclei accretion and increased protein synthesis. Nutr. Res. 36: 1335-1344.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.