

Pax-3/7 (B-5): sc-365843

BACKGROUND

Pax genes contain paired domains that share strong homology to genes in *Drosophila* which are involved in programming early development. The product of the Pax-3 gene is a DNA-binding protein expressed during early neurogenesis. Pax-3 is a protein containing both a paired domain and a paired-type homeodomain. During early neurogenesis, Pax-3 expression is limited to mitotic cells in the ventricular zone of the developing spinal cord and to distinct regions in the hindbrain, midbrain and diencephalon. In 10-12 day embryos, expression of Pax-3 is also seen in neural crest cells of the developing spinal ganglia, the craniofacial mesectoderm and in limb mesenchyme. Mutations in the MITF and Pax-3 genes, encoding transcription factors, are responsible for Waardenburg syndrome II (WS2) and WS1/WS3, respectively. Pax-7 is a gene specifically expressed in cultured satellite cell-derived myoblasts. *In situ* hybridization revealed that Pax-7 is also expressed in satellite cells residing in adult muscle. The gene which encodes Pax-7 maps to human chromosome 1p36.13.

CHROMOSOMAL LOCATION

Genetic locus: PAX3 (human) mapping to 2q36.1, PAX7 (human) mapping to 1p36.13; Pax3 (mouse) mapping to 1 C4, Pax7 (mouse) mapping to 4 D3.

SOURCE

Pax-3/7 (B-5) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 439-464 at the C-terminus of Pax-3 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-365843 X, 200 µg/0.1 ml.

Pax-3/7 (B-5) is available conjugated to agarose (sc-365843 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365843 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365843 PE), fluorescein (sc-365843 FITC), Alexa Fluor[®] 488 (sc-365843 AF488), Alexa Fluor[®] 546 (sc-365843 AF546), Alexa Fluor[®] 594 (sc-365843 AF594) or Alexa Fluor[®] 647 (sc-365843 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-365843 AF680) or Alexa Fluor[®] 790 (sc-365843 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-365843 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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STORAGE

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

PROTOCOLS

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

APPLICATIONS

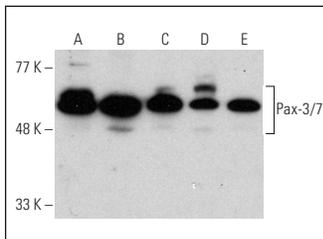
Pax-3/7 (B-5) is recommended for detection of Pax-3 and Pax-7 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000). Pax-3/7 (B-5) is also recommended for detection of Pax-3 and Pax-7 in additional species, including equine, bovine, porcine and avian.

Pax-3/7 (B-5) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

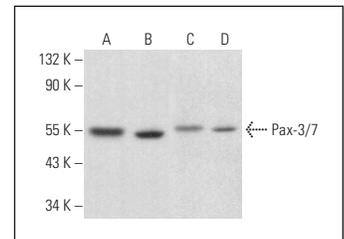
Molecular Weight of Pax-3/7: 56 kDa.

Positive Controls: SK-N-MC cell lysate: sc-2237, RAT2 whole cell lysate: sc-364198 or A-673 cell lysate: sc-2414.

DATA



Pax-3/7 (B-5) HRP: sc-365843 HRP. Direct western blot analysis of Pax-3/7 expression in SK-N-MC (A), A-673 (B), RAT2 (C) and NIH/3T3 (D) whole cell lysates and C32 nuclear extract (E).



Pax-3/7 (B-5): sc-365843. Western blot analysis of Pax-3/7 expression in NIH/3T3 (A), SJRH30 (B), Neuro-2A (C) and SK-MEL-24 (D) whole cell lysates.

SELECT PRODUCT CITATIONS

- Ferry, A., et al. 2015. Mechanical overloading increases maximal force and reduces fragility in hind limb skeletal muscle from mdx mouse. *Am. J. Pathol.* 185: 2012-2024.
- Wei, D.W., et al. 2017. Characterization of the promoter region of the bovine SIX1 gene: roles of MyoD, PAX7, CREB and MyoG. *Sci. Rep.* 7: 12599.
- Gao, Y., et al. 2019. Establishment and characterization of a fibroblast-like cell line from the muscle of turbot (*Scophthalmus maximus L.*). *Fish Physiol. Biochem.* 45: 1129-1139.
- Luk, H.Y., et al. 2019. Resistance exercise-induced hormonal response promotes satellite cell proliferation in untrained men but not in women. *Am. J. Physiol. Endocrinol. Metab.* 317: E421-E432.
- Gomes, M.J., et al. 2020. Effects of aerobic and resistance exercise on cardiac remodelling and skeletal muscle oxidative stress of infarcted rats. *J. Cell. Mol. Med.* 24: 5352-5362.
- Hulme, A.J., et al. 2020. Molecular and functional characterization of neurogenin-2 induced human sensory neurons. *Front. Cell. Neurosci.* 14: 600895.

RESEARCH USE

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