

Pax-7 (EE-8): sc-81975

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).

REFERENCES

- Walther, C., et al. 1992. Pax: a murine multigene family of paired box-containing genes. *Genomics* 11: 424-434.
- Shapiro, D.N., et al. 1993. The gene for Pax-7, a member of the paired-box-containing genes, is localized on human chromosome arm 1p36. *Genomics* 17: 767-769.

CHROMOSOMAL LOCATION

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

SOURCE

Pax-7 (EE-8) is a mouse monoclonal antibody raised against recombinant Pax-7 of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Pax-7 (EE-8) is recommended for detection of Pax-7 of mouse, rat and human 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)], 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 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: NIH/3T3 whole cell lysate: sc-2210.

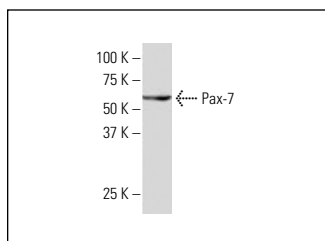
STORAGE

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

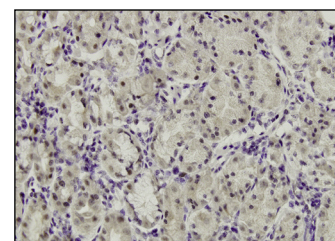
RESEARCH USE

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

DATA



Pax-7 (EE-8): sc-81975. Western blot analysis of Pax-7 expression in NIH/3T3 whole cell lysate.



Pax-7 (EE-8): sc-81975. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human stomach tissue showing nuclear localization.

SELECT PRODUCT CITATIONS

- Forni, P.E., et al. 2011. Neural crest and ectodermal cells intermix in the nasal placode to give rise to GnRH-1 neurons, sensory neurons, and olfactory ensheathing cells. *J. Neurosci.* 31: 6915-6927.
- Jones, K., et al. 2012. GSK3β mediates muscle pathology in myotonic dystrophy. *J. Clin. Invest.* 122: 4461-4472.
- Strikoudis, A., et al. 2016. Regulation of transcriptional elongation in pluripotency and cell differentiation by the PHD-finger protein PHF5A. *Nat. Cell Biol.* 18: 1127-1138.
- Günel, C., et al. 2017. Microarray analysis of the genes associated with osteitis in chronic rhinosinusitis. *Laryngoscope* 127: E85-E90.
- Cappelletti, C., et al. 2019. Aging-associated genes and let-7 microRNAs: a contribution to myogenic program dysregulation in oculopharyngeal muscular dystrophy. *FASEB J.* 33: 7155-7167.
- Sarchielli, E., et al. 2020. Testosterone improves muscle fiber asset and exercise performance in a metabolic syndrome model. *J. Endocrinol.* 245: 259-279.
- Park, S., et al. 2021. Nogo-A regulates myogenesis via interacting with Filamin-C. *Cell Death Discov.* 7: 1.
- Fovet, T., et al. 2022. Ergothioneine improves aerobic performance without any negative effect on early muscle recovery signaling in response to acute exercise. *Front. Physiol.* 13: 834597.
- Guilhot, C., et al. 2022. Severe muscle deconditioning triggers early extracellular matrix remodeling and resident stem cell differentiation into adipocytes in healthy men. *Int. J. Mol. Sci.* 23: 5489.
- Hao, D., et al. 2022. *In vitro* model of human skeletal muscle tissue for the study of resident macrophages and stem cells. *Biology* 11: 936.

CONJUGATES

See **Pax (D-7): sc-514352** for Pax antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor[®] 488, 546, 594, 647, 680 and 790.