

# Pax-3 (6288D4a): sc-81351

## 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 Pax3 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, in the craniofacial mesectoderm and in limb mesenchyme. Mutations in the MITF and Pax-3 genes, encoding transcription factors, are responsible for Waardenburg syndrome II (WSII) and WSI/WSIII, respectively.

## REFERENCES

- Goulding, M.D., et al. 1991. Pax-3, a novel murine DNA-binding protein expressed during early neurogenesis. *EMBO J.* 10: 1135-1147.
- Tassabehji, M., et al. 1992. Waardenburg's syndrome patients have mutations in the human homologue of the Pax-3 paired box gene. *Nature* 355: 635-636.
- Hoth, C.F., et al. 1993. Mutations in the paired domain of the human PAX3 gene cause Klein-Waardenburg syndrome (WSIII) as well as Waardenburg syndrome type I (WSI). *Am. J. Hum. Genet.* 52: 455-462.
- Stapleton, P., et al. 1993. Chromosomal localization of seven Pax genes and cloning of a novel family member, Pax-9. *Nat. Genet.* 3: 292-298.
- Tsukamoto, K., et al. 1994. Isolation of two isoforms of the Pax3 gene transcripts and their tissue-specific alternative expression in human adult tissues. *Hum. Genet.* 93: 270-274.
- Watanabe, A., et al. 1998. Epistatic relationship between Waardenburg syndrome genes MITF and Pax3. *Nat. Genet.* 18: 283-286.
- Wachtel, M., et al. 2004. Gene expression signatures identify rhabdomyosarcoma subtypes and detect a novel t(2;2)(q35;p23) translocation fusing Pax-3 to NCoA-1. *Cancer Res.* 64: 5539-5545.
- SWISS-PROT/TrEMBL (P23760). World Wide Web URL: <http://www.expasy.ch/sprot/sprot-top.html>.

## CHROMOSOMAL LOCATION

Genetic locus: PAX3 (human) mapping to 2q36.1; Pax3 (mouse) mapping to 1 C4.

## SOURCE

Pax-3 (6288D4a) is a mouse monoclonal antibody raised against a recombinant protein corresponding to a region near the C-terminus of Pax-3 of human origin.

## PRODUCT

Each vial contains 100 µg IgG<sub>1</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 1.0% stabilizer protein.

## APPLICATIONS

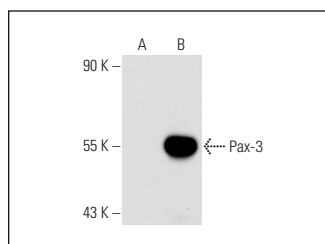
Pax-3 (6288D4a) is recommended for detection of Pax-3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for Pax-3 siRNA (h): sc-38747, Pax-3 siRNA (m): sc-38748, Pax-3 shRNA Plasmid (h): sc-38747-SH, Pax-3 shRNA Plasmid (m): sc-38748-SH, Pax-3 shRNA (h) Lentiviral Particles: sc-38747-V and Pax-3 shRNA (m) Lentiviral Particles: sc-38748-V.

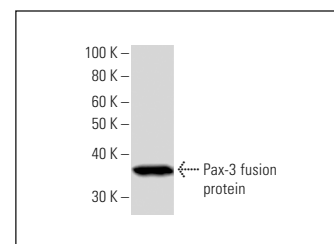
Molecular Weight of Pax-3: 56 kDa.

Positive Controls: Pax-3 (m): 293T Lysate: sc-122398.

## DATA



Pax-3 (6288D4a): sc-81351. Western blot analysis of Pax-3 expression in non-transfected: sc-117752 (A) and mouse Pax-3 transfected: sc-122398 (B) 293T whole cell lysates.



Pax-3 (6288D4a): sc-81351. Western Blot analysis of human recombinant Pax-3 fusion protein.

## SELECT PRODUCT CITATIONS


- Kong, H.K., et al. 2012. The regulatory mechanism of the LY6K gene expression in human breast cancer cells. *J. Biol. Chem.* 287: 38889-38900.
- Hathaway-Schrader, J.D., et al. 2018. Autophagy-dependent crosstalk between GILT and Pax-3 influences radiation sensitivity of human melanoma cells. *J. Cell. Biochem.* 119: 2212-2221.
- Kurmasheva, R.T., et al. 2019. Evaluation of entinostat alone and in combination with standard-of-care cytotoxic agents against rhabdomyosarcoma xenograft models. *Pediatr. Blood Cancer* 66: e27820.

## STORAGE

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.

## RESEARCH USE

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



See **Pax-3/7 (B-5): sc-365843** for Pax-3/7 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.