SANTA CRUZ BIOTECHNOLOGY, INC.

Pax-9 (7C2): sc-56823

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Pax genes contain paired domains with strong homology to genes in *Drosophila* which are involved in programming early development. Pax-9, a member of the paired box-containing gene family, is closely related in its paired domain to Pax-1. The Pax-9 gene encodes the highly conserved paired domain and the gene is a member of the same subgroup as Pax-1/undulated. Pax-9 is essential for the development of a variety of organs and skeletal elements. Mutations in either the Pax-1 or the Pax-9 genes may produce an inherited skeletal disorder such as the Jarcho-Levin syndrome or other forms of spondylocostal dysplasia, conditions resembling "undulated" in the mouse. A frameshift mutation within the paired domain of Pax-9 was identified in a family segregating autosomal dominant oligodontia whose members had normal primary dentition but lacked most permanent molars. In addition to lack of permanent molars, some individuals also lacked maxillary and/or mandibular second premolars, as well as mandibular central incisors. The gene which encodes Pax-9 maps to human chromosome 14q13.3.

REFERENCES

1. 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.
2. Wallin, J., et al. 1993. A new Pax gene, Pax-9, maps to mouse chromosome 12. Mamm. Genome 4: 354-358.
3. Peters, H., et al. 1998. Pax-9-deficient mice lack pharyngeal pouch derivatives and teeth and exhibit craniofacial and limb abnormalities. Genes Dev. 12: 2735-2747.
4. LeClair, E.E., et al. 1999. Expression of the paired-box genes Pax-1 and Pax-9 in limb skeleton development. Dev. Dyn. 214: 101-115.
5. Stockton, D.W., et al. 2000. Mutation of Pax-9 is associated with oligodontia. Nat. Genet. 24: 18-19.
6. Peres, R.C., et al. 2005. Association between Pax-9 promoter polymorphisms and hypodontia in humans. Arch. Oral Biol. 50: 861-871.
7. Kriangkrai, R., et al. 2006. Dual odontogenic origins develop at the early stage of rat maxillary incisor development. Anat. Embryol. 211: 101-108.
8. Devos, D., et al. 2006. New syndromic form of benign hereditary chorea is associated with a deletion of TITF-1 and Pax-9 contiguous genes. Mov. Disord. 21: 2237-2240.

CHROMOSOMAL LOCATION

Genetic locus: PAX9 (human) mapping to 14q13.3; Pax9 (mouse) mapping to 12 C1.

SOURCE

Pax-9 (7C2) is a rat monoclonal antibody raised against recombinant Pax-9 fusion protein of mouse origin.

STORAGE

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

PRODUCT

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

Pax-9 (7C2) is available conjugated to agarose (sc-56823 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-56823 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-56823 PE), fluorescein (sc-56823 FITC), Alexa Fluor® 488 (sc-56823 AF488), Alexa Fluor® 546 (sc-56823 AF546), Alexa Fluor® 594 (sc-56823 AF594) or Alexa Fluor® 647 (sc-56823 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-56823 AF680) or Alexa Fluor® 790 (sc-56823 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

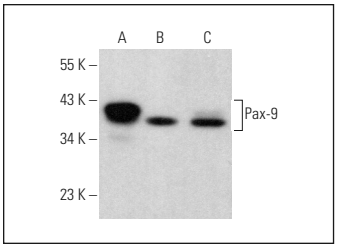
Pax-9 (7C2) is recommended for detection of Pax-9 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500); non cross-reactive with other Pax proteins.

Suitable for use as control antibody for Pax-9 siRNA (h): sc-38756, Pax-9 siRNA (m): sc-38757, Pax-9 shRNA Plasmid (h): sc-38756-SH, Pax-9 shRNA Plasmid (m): sc-38757-SH, Pax-9 shRNA (h) Lentiviral Particles: sc-38756-V and Pax-9 shRNA (m) Lentiviral Particles: sc-38757-V.

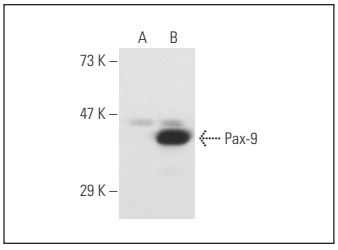
Molecular Weight of Pax-9: 35 kDa.

Positive Controls: WEHI-231 whole cell lysate: sc-2213, 3T3-L1 cell lysate: sc-2243 or Pax-9 (m): 293T Lysate: sc-122399.

DATA



Pax-9 (7C2): sc-56823. Western blot analysis of Pax-9 expression in WEHI-231 (**A**), F9 (**B**) and 3T3-L1 (**C**) whole cell lysates.



Pax-9 (7C2): sc-56823. Western blot analysis of Pax-9 expression in non-transfected: sc-117752 (**A**) and mouse Pax-9 transfected: sc-122399 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Momozane, T., et al. 2019. Efficient differentiation of mouse induced pluripotent stem cells into alveolar epithelium type II with a BRD4 inhibitor. Stem Cells Int. 2019: 1271682.

RESEARCH USE

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