

Pax-9 (h): 293T Lysate: sc-176045

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.
7. Peres, R.C., et al. 2005. Association between Pax-9 promoter polymorphisms and hypodontia in humans. *Arch. Oral Biol.* 50: 861-871.
8. Kriangkrai, R., et al. 2006. Dual odontogenic origins develop at the early stage of rat maxillary incisor development. *Anat. Embryol.* 211:101-108.
9. 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.

PRODUCT

Pax-9 (h): 293T Lysate represents a lysate of human Pax-9 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

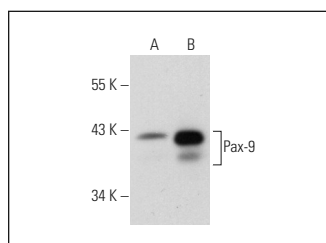
APPLICATIONS

Pax-9 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive Pax-9 antibodies. Recommended use: 10-20 µl per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

Pax-9 (7C2): sc-56823 is recommended as a positive control antibody for Western Blot analysis of enhanced human Pax-9 expression in Pax-9 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

DATA



Pax-9 (7C2): sc-56823. Western blot analysis of Pax-9 expression in non-transfected: sc-117752 (A) and human Pax-9 transfected: sc-176045 (B) 293T whole cell lysates.

RESEARCH USE

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

PROTOCOLS

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