SANTA CRUZ BIOTECHNOLOGY, INC.

Chx10 (N-18): sc-21690

SANTA CRUZ BIOTECHNOLOGY
The Power to Question

BACKGROUND

Chx10, for ceh-10 homeodomain containing homolog, is also known as RET1 and HOX10 and is closely related to the homeodomain of the homeobox gene ceh-10 from the nematode *Caenorhabditis elegans*. Chx10 is an essential component in the network of genes required for the development of the mammalian eye, with profound effects on retinal progenitor proliferation and bipolar cell specification or differentiation. Chx10 is expressed in the early retinal neuroepithelium, is restricted to bipolar cells and is maintained at a low level in bipolar cells of the mature retina. Human CHX10 is also expressed in the inner nuclear layer of the mature retina. Expression patterns implicate critical roles in the formation of the neuroretina and in the development and maintenance of the inner nuclear layer. Chx10 is expressed at high levels in uncommitted retinal progenitor cells and mature bipolar cells.

REFERENCES

1. Liu, I.S., et al. 1994. Developmental expression of a novel murine homeobox gene (Chx10): evidence for roles in determination of the neuroretina and inner nuclear layer. Neuron 13: 377-393.
2. Svendsen, P.C., et al. 1995. The *C. elegans* neuronally expressed homeobox gene ceh-10 is closely related to genes expressed in the vertebrate eye. Development 121: 1253-1262.
3. Burmeister, M., et al. 1996. Ocular retardation mouse caused by Chx10 homeobox null allele: impaired retinal progenitor proliferation and bipolar cell differentiation. Nat. Genet. 12: 376-384.
4. Chen, C.M., et al. 2000. Expression of Chx10 and Chx10-1 in the developing chicken retina. Mech. Dev. 90: 293-297.
5. Ferda Percin, E., et al. 2000. Human microphthalmia associated with mutations in the retinal homeobox gene CHX10. Nat. Genet. 25: 397-401.

CHROMOSOMAL LOCATION

Genetic locus: VSX2 (human) mapping to 14q24.3; Vsx2 (mouse) mapping to 12 D1.

SOURCE

Chx10 (N-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Chx10 of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-21690 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

Chx10 (N-18) is recommended for detection of Chx10 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

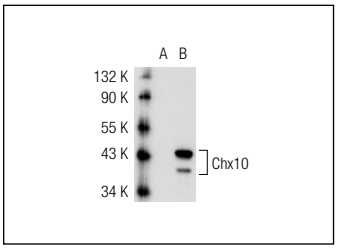
Chx10 (N-18) is also recommended for detection of Chx10 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Chx10 siRNA (h): sc-38647, Chx10 siRNA (m): sc-142339, Chx10 shRNA Plasmid (h): sc-38647-SH, Chx10 shRNA Plasmid (m): sc-142339-SH, Chx10 shRNA (h) Lentiviral Particles: sc-38647-V and Chx10 shRNA (m) Lentiviral Particles: sc-142339-V.

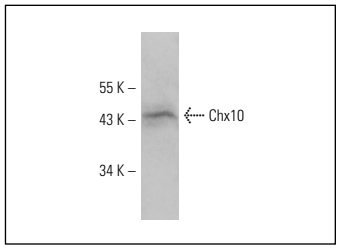
Molecular Weight of Chx10: 39 kDa.

Positive Controls: Chx10 (m): 293T Lysate: sc-119256 or mouse eye extract: sc-364241.

DATA



Chx10 (N-18): sc-21690. Western blot analysis of Chx10 expression in non-transfected: sc-117752 (**A**) and mouse Chx10 transfected: sc-119256 (**B**) 293T whole cell lysates.



Chx10 (N-18): sc-21690. Western blot analysis of Chx10 expression in mouse eye extract.

SELECT PRODUCT CITATIONS

1. Edwards, M.M., et al. 2010. Mutations in Lama1 disrupt retinal vascular development and inner limiting membrane formation. J. Biol. Chem. 285: 7697-7711.
2. Panayiotou, E., et al. 2013. Pax6 is expressed in subsets of V0 and V2 interneurons in the ventral spinal cord in mice. Gene Expr. Patterns 13: 328-334.

PROTOCOLS

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