

## Six1/2/4 (N-19): sc-9708

### BACKGROUND

Originally identified as homologues of the *Drosophila sine oculis* (so) genes, the SIX gene family encodes transcription factors that are characterized by a conserved DNA-binding homeodomain and an upstream SIX domain. The Six family proteins may have a role in vertebrate development and also in the maintenance of tissue differentiation. The human SIX1 gene maps to chromosome 12q23 and is expressed as a nuclear phosphoprotein in adult skeletal muscle. The Six1 protein over-expressed in many primary mammary carcinomas and in most metastatic lesions and in the posterior limb regions of the mouse embryo during development. Six1 and Six4 have a role in controlling muscle formation by binding the DNA motif MEF3 and activation of the regulatory protein, myogenin. The human Six4 protein maps to chromosome 14q23 and encodes a 781 amino acid protein. Six4 is expressed in the mantle layer of the developing brain and spinal cord in mouse. The human Six2 protein is expressed in skeletal muscle, pancreas, ovary and sclera and is encoded by a gene mapping to chromosome 2p16-p15.

### REFERENCES

1. Oliver, G., et al. 1995. Homeobox genes and connective tissue patterning. *Development* 121: 693-705.
2. Boucher, C.A., et al. 1996. Cloning of the human SIX1 gene and its assignment to chromosome 14. *Genomics* 33: 140-142.
3. Kawakami, K., et al. 1996. Identification and expression of six family genes in mouse retina. *FEBS Lett.* 393: 259-263.
4. Ohto, H., et al. 1998. Tissue and developmental distribution of Six family gene products. *Int. J. Dev. Biol.* 42: 141-148.
5. Spitz, F., et al. 1998. Expression of myogenin during embryogenesis is controlled by Six/sine oculis homeoproteins through a conserved MEF3 binding site. *Proc. Natl. Acad. Sci. USA* 95: 14220-14225.
6. Ozaki, H., et al. 1999. Structure and chromosome mapping of the human SIX4 and murine Six4 genes. *Cytogenet. Cell Genet.* 87: 108-112.
7. Boucher, C.A., et al. 2000. Structure, mapping and expression of the human gene encoding the homeodomain protein, Six2. *Gene* 247: 145-151.
8. Ford, H.L., et al. 2000. Cell cycle-regulated phosphorylation of the human Six1 homeodomain protein. *J. Biol. Chem.* 275: 22245-22254.

### SOURCE

Six1/2/4 (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Six1 of human origin.

### PRODUCT

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

Blocking peptide available for competition studies, sc-9708 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-9708 X, 200 µg/0.1 ml.

### APPLICATIONS

Six1/2/4 (N-19) is recommended for detection of Six1, Six2 and Six4 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).

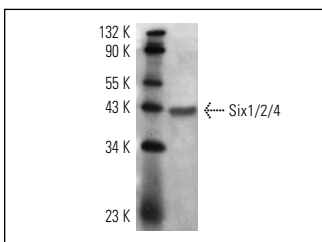
Six1/2/4 (N-19) is also recommended for detection of Six1, Six2, and Six4 in additional species, including equine, canine, bovine, porcine and avian.

Six1/2/4 (N-19) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of Six1/2/4: 37 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210.

### DATA



Six1/2/4 (N-19): sc-9708. Western blot analysis of Six1/2/4 expression in NIH/3T3 whole cell lysate.

### 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.

### PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.