

Six1/2/4 (E-11): sc-398193

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 14q23.1 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 14q23.1 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 2p21.

REFERENCES

- Oliver, G., et al. 1995. Homeobox genes and connective tissue patterning. *Development* 121: 693-705.
- Boucher, C.A., et al. 1996. Cloning of the human SIX1 gene and its assignment to chromosome 14. *Genomics* 33: 140-142.
- Kawakami, K., et al. 1996. Identification and expression of six family genes in mouse retina. *FEBS Lett.* 393: 259-263.

CHROMOSOMAL LOCATION

Genetic locus: SIX1/SIX4 (human) mapping to 14q23.1, SIX2 (human) mapping to 2p21; Six1/Six4 (mouse) mapping to 12 C3, Six2 (mouse) mapping to 17 E4.

SOURCE

Six1/2/4 (E-11) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 18-43 near the N-terminus of Six1 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-398193 X, 200 µg/0.1 ml.

Six1/2/4 (E-11) is available conjugated to agarose (sc-398193 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-398193 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398193 PE), fluorescein (sc-398193 FITC), Alexa Fluor® 488 (sc-398193 AF488), Alexa Fluor® 546 (sc-398193 AF546), Alexa Fluor® 594 (sc-398193 AF594) or Alexa Fluor® 647 (sc-398193 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398193 AF680) or Alexa Fluor® 790 (sc-398193 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-398193 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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APPLICATIONS

Six1/2/4 (E-11) is recommended for detection of Six1, Six2 and Six4 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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 (E-11) is also recommended for detection of Six1, Six2 and Six4 in additional species, including equine, canine, bovine, porcine and avian.

Six1/2/4 (E-11) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

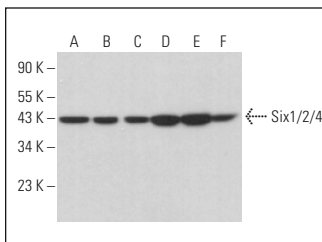
Molecular Weight of Six1/2/4: 37 kDa.

Positive Controls: SK-OV-3 whole cell lysate: sc-364229, Sol8 nuclear extract: sc-2157 or NIH/3T3 whole cell lysate: sc-2210.

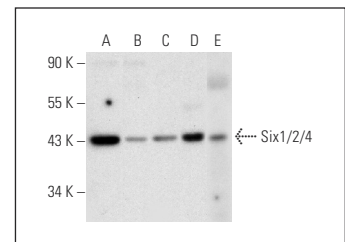
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



Six1/2/4 (E-11): sc-398193. Western blot analysis of Six1/2/4 expression in T24 (A), A-673 (B), Sol8 (C), L6 (D), C2C12 (E) and A-10 (F) whole cell lysates.



Six1/2/4 (E-11): sc-398193. Western blot analysis of Six1/2/4 expression in SK-OV-3 (A), Hep G2 (B) and NIH/3T3 (C) whole cell lysates, Sol8 nuclear extract (D) and human tonsil tissue extract (E).

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 for detailed protocols and support products.