

Six3/6 (Y-15): sc-25069

BACKGROUND

The SIX proteins (sine oculis) are a family of homeodomain transcription factors that share a conserved DNA binding domain. Two of these family members Six3 and Six6 (also designated Optx2 and Six9) are required for the specification and proliferation of the eye field in vertebrates, and, therefore, are the vertebrate homologues most closely related to the *Drosophila* sine oculis protein, which has an essential role in controlling compound eye development. Six3 and Six6 expression largely overlap during development of specific tissues, such as retina, hypothalamus, and pituitary. The human Six6 gene maps to chromosome 14q23.1. Haploinsufficiency of Six6 may cause several developmental disorders, including bilateral anophthalmia and pituitary anomalies. The gene encoding the human Six3 protein maps to chromosome 2p21, a region associated with holoprosencephaly type 2 (HPE2). Deletion of Six3 may be associated with HPE2 disorder, a common, severe malformation of the brain that results from incomplete cleavage of the forebrain during early embryogenesis.

CHROMOSOMAL LOCATION

Genetic locus: SIX3 (human) mapping to 2p21, SIX6 (human) mapping to 14q23.1; Six3 (mouse) mapping to 17 E4, Six6 (mouse) mapping to 12 C3.

SOURCE

Six3/6 (Y-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Six3 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-25069 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-25069 X, 200 µg/0.1 ml.

APPLICATIONS

Six3/6 (Y-15) is recommended for detection of Six3 and Six6 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).

Six3/6 (Y-15) is also recommended for detection of Six3 and Six6 in additional species, including canine, bovine, porcine and avian.

Six3/6 (Y-15) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

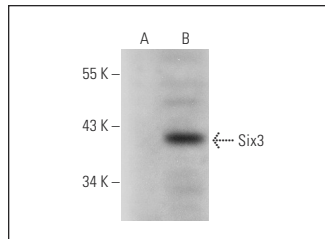
Molecular Weight of Six3/6: 43 kDa.

Positive Controls: Six3 (h): 293T Lysate: sc-173353, Jurkat nuclear extract: sc-2132 or NIH/3T3 whole cell lysate: sc-2210.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



Six3/6 (Y-15): sc-25069. Western blot analysis of Six3/6 expression in non-transfected: sc-117752 (A) and human Six3 transfected: sc-173353 (B) 293T whole cell lysates.

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 or our catalog for detailed protocols and support products.



Try **Six3 (A-1): sc-398797**, our highly recommended monoclonal alternative to Six3/6 (Y-15).