

## EYA2 (C-15): sc-15100

### BACKGROUND

A gene on chromosome 20q13.12 encodes Eya2 (eyes absent). EYA2 is one of four members of the eyes absent family. A 271 amino acid domain at the carboxy-terminal is highly conserved amongst the members of the eyes absent family, while the PST (proline-serine-threonine)-rich amino-terminal is highly divergent. EYA2 is expressed relatively late in development in the cytoplasm of extensor tendons and ligaments of the phalangeal elements of the limb, cranial placodes, branchial arches, central nervous system, and the developing eye. Pax3 induces the expression of Eya2 in a cascade that is necessary and sufficient for myogenesis. EYA2, like EYA1, acts as a transcriptional activator in connective tissue patterning through its PST domain, which functions as a transactivation domain. EYA2 is translocated to the nucleus by Six proteins, which interact through their domain and homeodomain with EYA2. EYA2 carboxy-terminal interacts with the Gα<sub>z</sub> and Gα<sub>i2</sub> proteins. This interaction prevents Six proteins from translocating EYA2 to the nucleus.

### REFERENCES

1. Abdelhak, S., et al. 1997. Clustering of mutations responsible for branchio-oto-renal (BOR) syndrome in the eyes absent homologous region (eyaHR) of EYA1. *Mol. Genet.* 6: 2247-2255.
2. Abdelhak, S., et al. 1997. A human homologue of the *Drosophila* eyes absent gene underlies branchio-oto-renal (BOR) syndrome and identifies a novel gene family. *Nat. Genet.* 15: 157-164
3. Xu, P.X., et al. 1997. Mouse Eya genes are expressed during limb tendon development and encode a transcriptional activation function. *Proc. Nat. Acad. Sci. USA* 94: 11974-11979.
4. Xu, P.X., et al. 1997. Mouse Eya homologues of the *Drosophila* eyes absent gene require Pax6 for expression in lens and nasal placode. *Development* 124: 219-231.
5. Borsani, G., et al. 1999. EYA4, a novel vertebrate gene related to *Drosophila* eyes absent. *Hum. Mol. Genet.* 8:11-23.
6. Xu, P.X., et al. 1999. Eya1-deficient mice lack ears and kidneys and show abnormal apoptosis of organ primordia. *Nat. Genet.* 23: 113-117.

### CHROMOSOMAL LOCATION

Genetic locus: EYA2 (human) mapping to 20q13.12; Eya2 (mouse) mapping to 2 H3.

### SOURCE

EYA2 (C-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of EYA2 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-15100 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### APPLICATIONS

EYA2 (C-15) is recommended for detection of EYA2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

EYA2 (C-15) is also recommended for detection of EYA2 in additional species, including equine, canine, bovine and avian.

Suitable for use as control antibody for EYA2 siRNA (h): sc-41948, EYA2 siRNA (m): sc-41949, EYA2 shRNA Plasmid (h): sc-41948-SH, EYA2 shRNA Plasmid (m): sc-41949-SH, EYA2 shRNA (h) Lentiviral Particles: sc-41948-V and EYA2 shRNA (m) Lentiviral Particles: sc-41949-V.

Molecular Weight of EYA2: 59 kDa.

Positive Controls: IMR-32 cell lysate: sc-2409.

### 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) 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.

### 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.



Try **EYA2 (F-18): sc-100325**, our highly recommended monoclonal alternative to EYA2 (C-15).