

## EYA3 (G-16): sc-15103

### BACKGROUND

EYA3 (Eyes absent homolog 3) is a 573 amino acid protein that localizes to both the nucleus and the cytoplasm and is one of several mammalian homologs of the *Drosophila* Eya (eyes absent) protein. Existing as two alternatively spliced isoforms, EYA3 possesses magnesium-catalyzed phosphatase activity and is thought to play a role in transcriptional regulation during organogenesis. Specifically, EYA3 interacts with proteins such as Six1 and, via this interaction, functions to activate the expression of genes that are involved in cellular proliferation and organ development. Upon DNA damage, EYA3 may be phosphorylated by ATM or ATR. The gene encoding EYA3 maps to chromosome 1, which spans about 260 million base pairs and comprises nearly 8% of the human genome.

### REFERENCES

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3. Xu, P.X., et al. 1997. Mouse Eya genes are expressed during limb tendon development and encode a transcriptional activation function. *Proc. Natl. Acad. Sci. USA* 94: 11974-11979.
4. Borsani, G., et al. 1999. EYA4, a novel vertebrate gene related to *Drosophila* eyes absent. *Hum. Mol. Genet.* 8: 11-23.
5. Ohto, H., et al. 1999. Cooperation of six and eya in activation of their target genes through nuclear translocation of Eya. *Mol. Cell. Biol.* 19: 6815-6824.
6. Ikeda, K., et al. 2002. Molecular interaction and synergistic activation of a promoter by Six, Eya, and Dach proteins mediated through CREB binding protein. *Mol. Cell. Biol.* 22: 6759-6766.
7. Online Mendelian Inheritance in Man, OMIM<sup>™</sup>. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 601655. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
8. Li, X., et al. 2003. Eya protein phosphatase activity regulates Six1-Dach-Eya transcriptional effects in mammalian organogenesis. *Nature* 426: 247-254.
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### CHROMOSOMAL LOCATIONS

Genetic locus: EYA3 (human) mapping to 1p35.3; Eya3 (mouse) mapping to 4 D2.3.

### SOURCE

EYA3 (G-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of EYA3 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-15103 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### APPLICATIONS

EYA3 (G-16) is recommended for detection of EYA3 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).

EYA3 (G-16) is also recommended for detection of EYA3 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for EYA3 siRNA (h): sc-41950, EYA3 siRNA (m): sc-41951, EYA3 shRNA Plasmid (h): sc-41950-SH, EYA3 shRNA Plasmid (m): sc-41951-SH, EYA3 shRNA (h) Lentiviral Particles: sc-41950-V and EYA3 shRNA (m) Lentiviral Particles: sc-41951-V.

Molecular Weight of EYA3: 63 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227.

### 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<sup>™</sup> compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker<sup>™</sup> 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<sup>™</sup> 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 **EYA3 (G-9): sc-515626**, our highly recommended monoclonal alternative to EYA3 (G-16).