SANTA CRUZ BIOTECHNOLOGY, INC.

EYA3 (G-9): sc-515626

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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

1. Zimmerman, J.E., et al. 1997. Cloning and characterization of two vertebrate homologs of the *Drosophila* eyes absent gene. Genome Res. 7: 128-141.
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. 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.

CHROMOSOMAL LOCATION

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

SOURCE

EYA3 (G-9) is a mouse monoclonal antibody raised against amino acids 207-300 mapping within an internal region of EYA3 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

EYA3 (G-9) is available conjugated to agarose (sc-515626 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-515626 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515626 PE), fluorescein (sc-515626 FITC), Alexa Fluor® 488 (sc-515626 AF488), Alexa Fluor® 546 (sc-515626 AF546), Alexa Fluor® 594 (sc-515626 AF594) or Alexa Fluor® 647 (sc-515626 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515626 AF680) or Alexa Fluor® 790 (sc-515626 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

EYA3 (G-9) is recommended for detection of EYA3 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).

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.

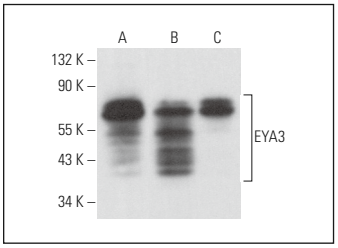
Molecular Weight of EYA3: 63 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, Y79 cell lysate: sc-2240 or HeLa whole cell lysate: sc-2200.

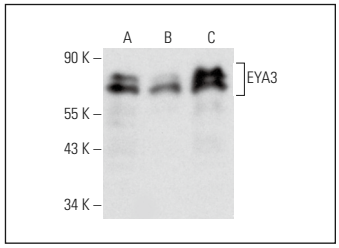
RECOMMENDED SUPPORT REAGENTS

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



EYA3 (G-9): sc-515626. Western blot analysis of EYA3 expression in Y79 (**A**), K-562 (**B**) and HeLa (**C**) whole cell lysates.



EYA3 (G-9): sc-515626. Western blot analysis of EYA3 expression in Hep G2 (**A**), SU-DHL-1 (**B**) and Y79 (**C**) 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 for detailed protocols and support products.