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EYA2 siRNA (m): sc-41949

BACKGROUND

A gene on chromosome 20q13.1 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 G_{αz} and G_{α12} proteins. This interaction prevents six proteins from translocating EYA2 to the nucleus.

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PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

CHROMOSOMAL LOCATION

Genetic locus: Eya2 (mouse) mapping to 2 H3.

PRODUCT

EYA2 siRNA (m) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 μM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see EYA2 shRNA Plasmid (m): sc-41949-SH and EYA2 shRNA (m) Lentiviral Particles: sc-41949-V as alternate gene silencing products.

For independent verification of EYA2 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-41949A, sc-41949B and sc-41949C.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 μl of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μl of RNase-free water makes a 10 μM solution in a 10 μM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

EYA2 siRNA (m) is recommended for the inhibition of EYA2 expression in mouse cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 μM in 66 μl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor EYA2 gene expression knockdown using RT-PCR Primer: EYA2 (m)-PR: sc-41949-PR (20 μl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.