SANTA CRUZ BIOTECHNOLOGY, INC.

EID-2 siRNA (h): sc-97371

BACKGROUND

As a regulator of transcription via chromatin remodeling, p300 is a histone acetyltransferase that binds to adenovirus E1A protein and may play a role in its transforming capacity. EID-2 (EP300-interacting inhibitor of differentiation 2), also known as CREBBP/EP300 inhibitor 2, is a 236 amino acid nuclear protein that cooperates with EID-2B to bind to the C-terminus of p300 to inhibit its activity. It also represses MYOD-dependent transcription and muscle differentiation. By interacting with SMAD2, SMAD3 and SMAD4, EID-2 selectively blocks the formation of TGFβ-induced SMAD3-SMAD4 complex, thereby repressing TGFβ/SMAD3-dependent signaling. Though it is abundantly expressed in placenta, EID-2 is highly expressed in skeletal muscle, heart, liver, brain and kidney. There are two isoforms of EID-2 that are produced as a result of alternative splicing events.

REFERENCES

1. Miyake, S., et al. 2000. Cells degrade a novel inhibitor of differentiation with E1A-like properties upon exiting the cell cycle. Mol. Cell. Biol. 20: 8889-8902.
2. Brockmann, D., et al. 2003. The multifunctional role of E1A in the transcriptional regulation of CREB/CBP-dependent target genes. Curr. Top. Microbiol. Immunol. 272: 97-129.
3. Ji, A., et al. 2003. EID-2, a novel member of the EID family of p300-binding proteins inhibits transactivation by MyoD. Gene 318: 35-43.
4. Miyake, S., et al. 2003. A novel EID-1 family member, EID-2, associates with histone deacetylases and inhibits muscle differentiation. J. Biol. Chem. 278: 17060-17065.
5. Lee, H.J., et al. 2004. A novel E1A-like inhibitor of differentiation (EID) family member, EID-2, suppresses transforming growth factor (TGF)-β signaling by blocking TGF-β-induced formation of Smad3-Smad4 complexes. J. Biol. Chem. 279: 2666-2672.
6. Sasajima, Y., et al. 2005. A novel EID family member, EID-3, inhibits differentiation and forms a homodimer or heterodimer with EID-2. Biochem. Biophys. Res. Commun. 333: 969-975.

CHROMOSOMAL LOCATION

Genetic locus: EID2 (human) mapping to 19q13.2.

PRODUCT

EID-2 siRNA (h) 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 EID-2 shRNA Plasmid (h): sc-97371-SH and EID-2 shRNA (h) Lentiviral Particles: sc-97371-V as alternate gene silencing products.

For independent verification of EID-2 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-97371A, sc-97371B and sc-97371C.

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

EID-2 siRNA (h) is recommended for the inhibition of EID-2 expression in human 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.

GENE EXPRESSION MONITORING

EID-2 (C-8): sc-514902 is recommended as a control antibody for monitoring of EID-2 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

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) 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor EID-2 gene expression knockdown using RT-PCR Primer: EID-2 (h)-PR: sc-97371-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.