SANTA CRUZ BIOTECHNOLOGY, INC.

p300 siRNA (h): sc-29431

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The Power to Question

BACKGROUND

Cyclic AMP-regulated gene expression frequently involves a DNA element designated the cAMP-regulated enhancer (CRE). Many transcription factors bind to this element, including the protein CREB which is activated as a result of phosphorylation by protein kinase A. It has been shown that protein kinase A-mediated CREB phosphorylation results in its binding to a nuclear protein designated CBP (for CREB-binding protein). These findings suggest that CBP has many of the properties expected of a CREB co-activator. Another high molecular weight transcriptional adapter protein, designated p300, is characterized by three cysteine- and histidine-rich regions, of which the most carboxy terminal region specifically binds the adenovirus E1A protein. p300 molecules lacking an intact E1A binding site bypass E1A repression even in the presence of high concentrations of E1A. Sequence analysis of CBP and p300 has revealed substantial homology, arguing that these proteins are members of a conserved family of coactivators.

CHROMOSOMAL LOCATION

Genetic locus: EP300 (human) mapping to 22q13.2.

PRODUCT

p300 siRNA (h) is a target-specific 19-25 nt siRNA 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 p300 shRNA Plasmid (h): sc-29431-SH and p300 shRNA (h) Lentiviral Particles: sc-29431-V as alternate gene silencing products.

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

p300 siRNA (h) is recommended for the inhibition of p300 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.

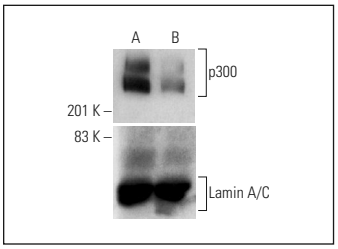
GENE EXPRESSION MONITORING

p300 (F-4): sc-48343 is recommended as a control antibody for monitoring of p300 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).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor p300 gene expression knockdown using RT-PCR Primer: p300 (h)-PR: sc-29431-PR (20 µl, 501 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

DATA



p300 siRNA (h): sc-29431. Western blot analysis of p300 expression in non-transfected control (**A**) and p300 siRNA transfected (**B**) A-431 cells. Blot probed with p300 (N-15): sc-584. Lamin A/C (636): sc-7292 used as specificity and loading control.

SELECT PRODUCT CITATIONS

1. Monteleone, G., et al. 2005. Post-transcriptional regulation of Smad7 in the gut of patients with inflammatory bowel disease. Gastroenterology 129: 1420-1429.
2. Hao, J., et al. 2013. Selective small molecule targeting β-catenin function discovered by *in vivo* chemical genetic screen. Cell Rep. 4: 898-904.
3. Zhou, J., et al. 2014. P300 binds to and acetylates MTA2 to promote colorectal cancer cells growth. Biochem. Biophys. Res. Commun. 444: 387-390.
4. Zhang, E., et al. 2015. Metformin and resveratrol inhibited high glucose-induced metabolic memory of endothelial senescence through SIRT1/p300/p53/p21 pathway. PLoS ONE 10: e0143814.
5. Guo, Z., et al. 2016. Up-regulation of human inducible nitric oxide synthase by p300 transcriptional complex. PLoS ONE 11: e0146640.
6. Gatla, H.R., et al. 2017. Epigenetic regulation of interleukin-8 expression by class I HDAC and CBP in ovarian cancer cells. Oncotarget 8: 70798-70810.
7. Ali, A., et al. 2019. HSF1 mediated TNF-α production during proteotoxic stress response pioneers proinflammatory signal in human cells. FASEB J. 33: 2621-2635.

RESEARCH USE

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