SANTA CRUZ BIOTECHNOLOGY, INC.

# p300 siRNA (m): sc-29432

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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 co-activators.

## REFERENCES


1. Chivra, J.C., et al. 1993. Phosphorylated CREB binds specifically to the nuclear protein CBP. Nature 365: 855-859.
2. Kwok, R.P.S., et al. 1993. Nuclear protein CBP is a coactivator for the transcription factor CREB. Nature 370: 223-229.


## CHROMOSOMAL LOCATION

Genetic locus: Ep300 (mouse) mapping to 15 E1, Crebbp (mouse) mapping to 16 A1.

## PRODUCT

p300 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 p300 shRNA Plasmid (m): sc-29432-SH and p300 shRNA (m) Lentiviral Particles: sc-29432-V as alternate gene silencing products.

For independent verification of p300 (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-29432A, sc-29432B and sc-29432C.

## 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 (m) is recommended for the inhibition of p300 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.

## 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 (m)-PR: sc-29432-PR (20 µl, 555 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## SELECT PRODUCT CITATIONS


1. Lee, Y., et al. 2010. Coactivation of the CLOCK-BMAL1 complex by CBP mediates resetting of the circadian clock. J. Cell Sci. 123: 3547-3557.
2. Kadiyala, C.S., et al. 2012. Acetylation of retinal histones in diabetes increases inflammatory proteins: effects of minocycline and manipulation of histone acetyltransferase (HAT) and histone deacetylase (HDAC). J. Biol. Chem. 287: 25869-25880.
3. Yao, X.H., et al. 2014. Reversal of glucose intolerance in rat offspring exposed to ethanol before birth through reduction of nuclear skeletal muscle HDAC expression by the bile acid TUDCA. Physiol. Rep. 2: e12195.
4. Jang, S.M., et al. 2015. KAT5-mediated Sox-4 acetylation orchestrates chromatin remodeling during myoblast differentiation. Cell Death Dis. 6: e1857.
5. Zheng, H., et al. 2017. Induction of specific T helper-9 cells to inhibit glioma cell growth. Oncotarget 8: 4864-4874.
6. Lee, K.H., et al. 2021. Cigarette smoke extract-induced downregulation of p300 is responsible for the impaired inflammatory cytokine response of macrophages. Cell. Signal. 85: 110050.
7. Almutairi, F., et al. 2021. PI3K/NFκB-dependent TNF-α and HDAC activities facilitate LPS-induced RGS10 suppression in pulmonary macrophages. Cell. Signal. 86: 110099.


## RESEARCH USE

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