SANTA CRUZ BIOTECHNOLOGY, INC.

# YY1 siRNA (h): sc-36863

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*The Power to Question*

## BACKGROUND

The YY1 transcription factor, also known as NF-E1 (human) and Delta or UCRBP (mouse) is of interest due to its diverse effects on a wide variety of target genes. YY1 is broadly expressed in a wide range of cell types and contains four C-terminal zinc finger motifs of the Cys-Cys-His-His type and an unusual set of structural motifs at its N-terminal. It binds to downstream elements in several vertebrate ribosomal protein genes, where it apparently acts positively to stimulate transcription and can act either negatively or positively in the context of the immunoglobulin κ 3' enhancer and immunoglobulin heavy-chain μE1 site as well as the P5 promoter of the adeno-associated virus. It thus appears that YY1 is a bifunctional protein, capable of functioning as an activator in some transcriptional control elements and a repressor in others.

## CHROMOSOMAL LOCATION

Genetic locus: YY1 (human) mapping to 14q32.2.

## PRODUCT

YY1 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 YY1 shRNA Plasmid (h): sc-36863-SH and YY1 shRNA (h) Lentiviral Particles: sc-36863-V as alternate gene silencing products.

For independent verification of YY1 (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-36863A, sc-36863B and sc-36863C.

## 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

YY1 siRNA (h) is recommended for the inhibition of YY1 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.

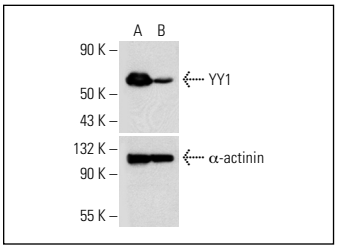
## GENE EXPRESSION MONITORING

YY1 (H-10): sc-7341 is recommended as a control antibody for monitoring of YY1 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).

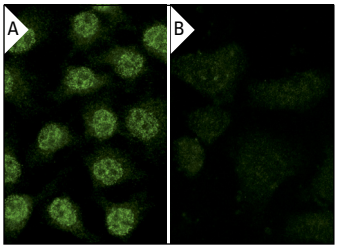
## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor YY1 gene expression knockdown using RT-PCR Primer: YY1 (h)-PR: sc-36863-PR (20 µl, 554 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## DATA




YY1 siRNA (h): sc-36863. Western blot analysis of YY1 expression in non-transfected control (**A**) and YY1 siRNA transfected (**B**) HeLa cells. Blot probed with YY1 (H-10): sc-7341. α-actinin (H-2): sc-17829 used as specificity and loading control.




YY1 siRNA (h): sc-36863. Immunofluorescence staining of methanol-fixed, control HeLa (**A**) and YY1 siRNA silenced HeLa (**B**) cells showing diminished nuclear staining in the siRNA silenced cells. Cells probed with YY1 (H-414): sc-1703.

## SELECT PRODUCT CITATIONS


1. Caretti, G., et al. 2004. The polycomb Ezh2 methyltransferase regulates muscle gene expression and skeletal muscle differentiation. Genes Dev. 18: 2627-2638.
2. Martínez-Paniagua, M.A., et al. 2011. Mcl-1 and YY1 inhibition and induction of DR5 by the BH3-mimetic obatoclax (GX15-070) contribute in the sensitization of B-NHL cells to TRAIL apoptosis. Cell Cycle 10: 2792-2805.
3. Son, H.J., et al. 2012. Negative regulation of JAK2 by H3K9 methyltransferase G9a in leukemia. Mol. Cell. Biol. 32: 3681-3694.
4. Kim, K.B., et al. 2015. H3K9 methyltransferase G9a negatively regulates UHRF1 transcription during leukemia cell differentiation. Nucleic Acids Res. 43: 3509-3523.
5. Han, S.X., et al. 2016. Regulation of expression of venom toxins: silencing of prothrombin activator trocarin D by AG-rich motifs. FASEB J. 30: 2411-2425.
6. Morales-Martinez, M., et al. 2019. Regulation of Krüppel-like factor 4 (KLF4) expression through the transcription factor Yin-Yang 1 (YY1) in non-Hodgkin B-cell lymphoma. Oncotarget 10: 2173-2188.
7. Jha, A., et al. 2020. MiR193a modulation and podocyte phenotype. Cells 9: 1004.


## RESEARCH USE

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