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# RESP18 siRNA (m): sc-152812

## BACKGROUND

RESP18 (regulated endocrine-specific protein 18), is a 173 amino acid secreted protein that belongs to the RESP18 family. Localizing to Golgi apparatus, endoplasmic reticulum and the lumen of dense core vesicles, RESP18 is found in  $\alpha$ ,  $\beta$  and  $\delta$  cells of pancreatic islets. RESP18 expression is limited to brain, pituitary, peripheral endocrine tissues and sperm, suggesting that its function is specific to neurons, endocrine cells and sperm. RESP18 is expressed in several endocrine cell lines, including AtT-20, GH3, PC12 and RIN cells, but not in fibroblast lines. RESP18 is a major glucocorticoid responsive protein in the secretory pathway of corticotropes. The RESP18 gene contains 9 exons and exists as three alternatively spliced isoforms. The RESP18 gene is conserved in chimpanzee, bovine, mouse and rat and maps to human chromosome 2q35.

## REFERENCES

1. Bloomquist, B.T., et al. 1994. Regulated endocrine-specific protein-18: a short-lived novel glucocorticoid-regulated endocrine protein. *Endocrinology* 135: 2714-2722.
2. Bloomquist, B.T., et al. 1994. RESP18, a novel endocrine secretory protein transcript, and four other transcripts are regulated in parallel with pro-opiomelanocortin in melanotropes. *J. Biol. Chem.* 269: 9113-9122.
3. Schiller, M.R. and Darlington, D.N. 1996. Stage-specific expression of RESP18 in the testes. *J. Histochem. Cytochem.* 44: 1489-1496.
4. Darlington, D.N., et al. 1997. Expression of RESP18 in peptidergic and catecholaminergic neurons. *J. Histochem. Cytochem.* 45: 1265-1277.
5. Itoh, M., et al. 1998. Identification by differential display of eight known genes induced during *in vivo* intimal hyperplasia. *J. Hum. Genet.* 43: 9-13.
6. Cai, T. 2005. Are IA-2 and RESP18 involved in trait of blood pressure? *Hypertension* 46: e18
7. Zhang, G., et al. 2007. RESP18, a homolog of the luminal domain IA-2, is found in dense core vesicles in pancreatic islet cells and is induced by high glucose. *J. Endocrinol.* 195: 313-321.
8. Online Mendelian Inheritance in Man, OMIM™. 2009. Johns Hopkins University, Baltimore, MD. MIM Number: 612721. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

## CHROMOSOMAL LOCATION

Genetic locus: Resp18 (mouse) mapping to 1 C3.

## PRODUCT

RESP18 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see RESP18 shRNA Plasmid (m): sc-152812-SH and RESP18 shRNA (m) Lentiviral Particles: sc-152812-V as alternate gene silencing products.

For independent verification of RESP18 (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-152812A, sc-152812B and sc-152812C.

## 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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

RESP18 siRNA (m) is recommended for the inhibition of RESP18 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  $\mu$ M in 66  $\mu$ l. 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 RESP18 gene expression knockdown using RT-PCR Primer: RESP18 (m)-PR: sc-152812-PR (20  $\mu$ l). 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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.