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SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

[linkedin.com/company/szaboscandic](https://www.linkedin.com/company/szaboscandic) 

ULK1 siRNA (h): sc-44182

BACKGROUND

ULK1 and ULK2 (for UNC-51-like kinase) encode similar amino-terminal serine/threonine kinase domains, a proline/serine-rich (PS) domain and a species-conserved carboxyl-terminal domain. Both share homology with the UNC-51 kinase from *Caenorhabditis elegans* and the APG1 kinase in yeast, which are involved in axonal extension and growth, and autophagy, respectively. ULK1 maps to human chromosome 12q24.33 and is ubiquitously expressed. ULK2, also widely expressed, maps to mouse chromosome 11 B2 and is expected to have a similar molecular weight as ULK1 in human. ULK1 and ULK2 are thought to auto-phosphorylate the PS domain *in vitro*, and the significant homology among vertebrates suggest that ULK1 and ULK2 are involved in the regulation of fundamental biological processes.

CHROMOSOMAL LOCATION

Genetic locus: ULK1 (human) mapping to 12q24.33.

PRODUCT

ULK1 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see ULK1 shRNA Plasmid (h): sc-44182-SH and ULK1 shRNA (h) Lentiviral Particles: sc-44182-V as alternate gene silencing products.

For independent verification of ULK1 (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-44182A, sc-44182B and sc-44182C.

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

APPLICATIONS

ULK1 siRNA (h) is recommended for the inhibition of ULK1 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 μ M in 66 μ 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.

GENE EXPRESSION MONITORING

ULK1 (F-4): sc-390904 is recommended as a control antibody for monitoring of ULK1 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 ULK1 gene expression knockdown using RT-PCR Primer: ULK1 (h)-PR: sc-44182-PR (20 μ l, 588 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

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RESEARCH USE

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