SANTA CRUZ BIOTECHNOLOGY, INC.

UVRAG siRNA (h): sc-76883

BACKGROUND

UVRAG (UV radiation resistance-associated gene), also known as p63 or DHTX, is a 699 amino acid cytoplasmic protein. UVRAG has been shown to activate the BECN1/PI 3-kinase complex, which promotes autophagy. Autophagy is the degradation of cellular proteins in the lysosomes, and when this pathway is suppressed, cell growth is deregulated. Mutations in the gene encoding UVRAG have been associated with colon cancer, suggesting that UVRAG is also involved in suppressing the proliferation and tumorigenicity of human colon cancer cells. UVRAG has been found to complement the ultraviolet sensitivity of xeroderma pigmentosum group C cells. Ubiquitously expressed, UVRAG is found at highest levels in kidney, lung, liver and brain. UVRAG contains one C2 domain, which is thought to be involved in calcium-dependent phospholipid binding.

REFERENCES

1. Teitz, T., et al. 1990. Isolation by polymerase chain reaction of a cDNA whose product partially complements the ultraviolet sensitivity of xeroderma pigmentosum group C cells. Gene 87: 295-298.
2. Perelman, B., et al. 1997. Molecular cloning of a novel human gene encoding a 63 kDa protein and its sublocalization within the 11q13 locus. Genomics 41: 397-405.
3. Ionov, Y., et al. 2004. Manipulation of nonsense mediated decay identifies gene mutations in colon cancer cells with microsatellite instability. Oncogene 23: 639-645.
4. Liang, C., et al. 2006. Autophagic and tumour suppressor activity of a novel Beclin1-binding protein UVRAG. Nat. Cell Biol. 8: 688-699.
5. Liang, C., et al. 2007. UVRAG: a new player in autophagy and tumor cell growth. Autophagy 3: 69-71.
6. Kim, M.S., et al. 2008. Frameshift mutation of UVRAG, an autophagy-related gene, in gastric carcinomas with microsatellite instability. Hum. Pathol. 39: 1059-1063.

CHROMOSOMAL LOCATION

Genetic locus: UVRAG (human) mapping to 11q13.5.

PRODUCT

UVRAG 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 UVRAG shRNA Plasmid (h): sc-76883-SH and UVRAG shRNA (h) Lentiviral Particles: sc-76883-V as alternate gene silencing products.

For independent verification of UVRAG (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-76883A, sc-76883B and sc-76883C.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support 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

UVRAG siRNA (h) is recommended for the inhibition of UVRAG 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

UVRAG (2E8): sc-293268 is recommended as a control antibody for monitoring of UVRAG 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).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor UVRAG gene expression knockdown using RT-PCR Primer: UVRAG (h)-PR: sc-76883-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Deng, H., et al. 2017. MicroRNA-1185 induces endothelial cell apoptosis by targeting UVRAG and KRIT1. Cell. Physiol. Biochem. 41: 2171-2182.

RESEARCH USE

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