

ING2 siRNA (h): sc-62503

BACKGROUND

ING2 (inhibitor of growth protein 2, p33ING2) is a 280 amino acid protein encoded by the human gene ING2. ING2 belongs to the ING family and contains one PHD-type zinc finger. ING2 is believed to be involved in p53/TP53 activation and p53/TP53-dependent apoptotic pathways, probably by enhancing acetylation of p53/TP53. It is a component of a MSinA-like corepressor complex, which is probably involved in deacetylation of nucleosomal histones. ING2 activity seems to be modulated by binding to phosphoinositides (PtdInsPs). ING2 is predominantly a nuclear protein that is localized to chromatin and the nuclear matrix. Upon reduced PtdIns(5)P levels, ING2 seems to be released from chromatin and, at least partially, translocated to the cytoplasm. ING2 is widely expressed with higher expression in colon-cancer tumor than in normal colon tissues. It can also be induced by the DNA-damaging agents etoposide and neocarzinostatin.

REFERENCES

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2. Nagashima, M., et al. 2001. DNA damage-inducible gene p33ING2 negatively regulates cell proliferation through acetylation of p53. *Proc. Natl. Acad. Sci. USA* 98: 9671-9676.
3. Kuzmichev, A., et al. 2002. Role of the Sin3-histone deacetylase complex in growth regulation by the candidate tumor suppressor p33^{ING1}. *Mol. Cell. Biol.* 22: 835-848.
4. Nagashima, M., et al. 2003. A novel PHD-finger motif protein, p47ING3, modulates p53-mediated transcription, cell cycle control, and apoptosis. *Oncogene* 22: 343-350.
5. Gozani, O., et al. 2003. The PHD finger of the chromatin-associated protein ING2 functions as a nuclear phosphoinositide receptor. *Cell* 114: 99-111.
6. Sironi, E., et al. 2004. Loss of heterozygosity on chromosome 4q32-35 in sporadic basal cell carcinomas: evidence for the involvement of p33ING2/ING and SAP30 genes. *J. Cutan. Pathol.* 31: 318-322.
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CHROMOSOMAL LOCATION

Genetic locus: ING2 (human) mapping to 4q35.1.

PRODUCT

ING2 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 ING2 shRNA Plasmid (h): sc-62503-SH and ING2 shRNA (h) Lentiviral Particles: sc-62503-V as alternate gene silencing products.

For independent verification of ING2 (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-62503A, sc-62503B and sc-62503C.

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

ING2 siRNA (h) is recommended for the inhibition of ING2 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

ING2 (B-5): sc-271544 is recommended as a control antibody for monitoring of ING2 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-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 ING2 gene expression knockdown using RT-PCR Primer: ING2 (h)-PR: sc-62503-PR (20 μ 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 for detailed protocols and support products.