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KIN17 shRNA (m) Lentiviral Particles: sc-45959-V

BACKGROUND

The KIN17 protein binds to bent or curved double-stranded DNA fragments found at illegitimate recombination sites. KIN17 is ubiquitously expressed with the highest levels of expression in muscle, heart and testis. Low doses of ionizing radiation increase KIN17 expression in mammalian cells. In keratinocytes, KIN17 expression increases during periods of hyperproliferation. UVC irradiation also increases KIN17 expression when functional XPA and XPC proteins are present. Antisense studies indicate that a decrease in KIN17 correlates with a decrease in cell proliferation and an accumulation of cells in early and mid-S phase. SV40-transformed fibroblasts overexpress KIN17, which interacts with Large T antigen and reduces T-antigen-dependent DNA replication. The gene encoding human KIN17 maps to chromosome 10p14.

REFERENCES

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- Biard, D.S., et al. 1997. Enhanced expression of the Kin17 protein immediately after low doses of ionizing radiation. *Radiat. Res.* 147: 442-450.
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- Kannouche, P., et al. 2000. Molecular cloning and characterization of the human KIN17 cDNA encoding a component of the UVC response that is conserved among metazoans. *Carcinogenesis* 21: 1701-1710.
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- Miccoli, L., et al. 2002. Human kin17 protein directly interacts with the simian virus 40 large T antigen and inhibits DNA replication. *Cancer Res.* 62: 5425-5435.

CHROMOSOMAL LOCATION

Genetic locus: Kin (mouse) mapping to 2 A1.

PRODUCT

KIN17 shRNA (m) Lentiviral Particles is a pool of concentrated, transduction-ready viral particles containing 3 target-specific constructs that encode 19-25 nt (plus hairpin) shRNA designed to knock down gene expression. Each vial contains 200 μ l frozen stock containing 1.0×10^6 infectious units of virus (IFU) in Dulbecco's Modified Eagle's Medium with 25 mM HEPES pH 7.3. Suitable for 10-20 transductions. Also see KIN17 siRNA (m): sc-45959 and KIN17 shRNA Plasmid (m): sc-45959-SH as alternate gene silencing products.

STORAGE

Store lentiviral particles at -80° C. Stable for at least one year from the date of shipment. Once thawed, particles can be stored at 4° C for up to one week. Avoid repeated freeze thaw cycles.

APPLICATIONS

KIN17 shRNA (m) Lentiviral Particles is recommended for the inhibition of KIN17 expression in mouse cells.

SUPPORT REAGENTS

Control shRNA Lentiviral Particles: sc-108080. Available as 200 μ l frozen viral stock containing 1.0×10^6 infectious units of virus (IFU); contains an shRNA construct encoding a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA.

GENE EXPRESSION MONITORING

KIN17 (C-16): sc-26955 is recommended as a control antibody for monitoring of KIN17 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 (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor KIN17 gene expression knockdown using RT-PCR Primer: KIN17 (m)-PR: sc-45959-PR (20 μ l). Annealing temperature for the primers should be $55-60^\circ$ C and the extension temperature should be $68-72^\circ$ C.

BIOSAFETY

Lentiviral particles can be employed in standard Biosafety Level 2 tissue culture facilities (and should be treated with the same level of caution as with any other potentially infectious reagent). Lentiviral particles are replication-incompetent and are designed to self-inactivate after transduction and integration of shRNA constructs into genomic DNA of target cells.

RESEARCH USE

The purchase of this product conveys to the buyer the nontransferable right to use the purchased amount of the product and all replicates and derivatives for research purposes conducted by the buyer in his laboratory only (whether the buyer is an academic or for-profit entity). The buyer cannot sell or otherwise transfer (a) this product (b) its components or (c) materials made using this product or its components to a third party, or otherwise use this product or its components or materials made using this product or its components for Commercial Purposes.

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