KLF12 shRNA (h) Lentiviral Particles: sc-75389-V

BACKGROUND
Krüppel-like factors (KLFs) comprise a family of evolutionarily conserved zinc finger-containing transcription factors with diverse regulatory functions in cell growth, proliferation, differentiation and embryogenesis. Individual members of the Sp1-like/KLF family can function either as activators or repressors, depending on which promoter they bind and which coregulators they interact with. KLF12 (krüppel-like factor 12), also known as AP2REP or HSPC122, is a 402 amino acid protein that localizes to the nucleus and contains three C2H2-type zinc fingers. One of several members of the Sp1 C2H2-type zinc-finger protein family, KLF12 binds to a regulatory element in the AP-2α gene promoter and, via this binding, functions as a strong repressor of AP-2α transcription. Two isoforms of KLF12 exist due to alternative splicing events.

REFERENCES

CHROMOSOMAL LOCATION
Genetic locus: KLF12 (human) mapping to 13q22.1.

PRODUCT
KLF12 shRNA (h) 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 µl frozen stock containing 1.0 x 10⁶ 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 KLF12 siRNA (h): sc-75389 and KLF12 shRNA Plasmid (h): sc-75389-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
KLF12 shRNA (h) Lentiviral Particles is recommended for the inhibition of KLF12 expression in human cells.

SUPPORT REAGENTS
Control shRNA Lentiviral Particles: sc-108080. Available as 200 µl frozen viral stock containing 1.0 x 10⁶ 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
KLF12 (NO-C45): sc-134373 is recommended as a control antibody for monitoring of KLF12 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® HRP: sc-516102 or m-IgG® 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® BP-ITC: sc-516140 or m-IgG® 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 KLF12 gene expression knockdown using RT-PCR Primer: KLF12 (h)-PR: sc-75389-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° 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.

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