NR3A shRNA Plasmid (m): sc-61230-SH

BACKGROUND
NR3A is a subunit of the N-methyl-D-aspartate (NMDA) receptors, which belong to the superfamily of glutamate-regulated ion channels and function in pathological and physiological processes in the central nervous system. NR3A is a multi-pass membrane protein that is expressed in fetal brain and is mediated by glycine. It may be involved in the development of dendritic spines and in the PPP2CB-NMDAR mediated signaling mechanism. NR3A forms a heteromeric channel composed of a ζ subunit (GRIN1), an ε subunit (GRIN2A, GRIN2B, GRIN2C or GRIN2D) and a third subunit (GRIN3A or GRIN3B). The NR3A protein is enriched in post-synaptic plasma membrane and post-synaptic densities and requires the presence of GRIN1 to be targeted at the plasma membrane. The NR3A subunit displays greater than 90% sequence homology to the corresponding subunit in rat.

REFERENCES

CHROMOSOMAL LOCATION
Genetic locus: Grin3a (mouse) mapping to 4 B1.

PRODUCT
NR3A shRNA Plasmid (m) is a pool of 3 target-specific lentiviral vector plasmids each encoding 19-25 nt (plus hairpin) shRNAs designed to knock down gene expression. Each plasmid contains a puromycin resistance gene for the selection of cells stably expressing shRNA. Each vial contains 20 µg of lyophilized shRNA plasmid DNA. Suitable for up to 20 transfections. Also see NR3A siRNA (m): sc-61230 and NR3A shRNA (m) Lentiviral Particles: sc-61230-V as alternate gene silencing products.

STORAGE AND RESUSPENSION
Store lyophilized shRNA plasmid DNA at 4° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at 4° C for short term storage or -80° C for long term storage. Avoid repeated freeze thaw cycles.

Resuspend lyophilized shRNA plasmid DNA in 200 µl of the deionized water provided. Resuspension of the shRNA plasmid DNA in 200 µl of deionized water makes a 0.1 µg/µl solution in a 10 mM Tris, 1 mM EDTA buffered solution.

APPLICATIONS
NR3A shRNA Plasmid (m) is recommended for the inhibition of NR3A expression in mouse cells.

SUPPORT REAGENTS
For optimal shRNA Plasmid transfection efficiency, Santa Cruz Biotechnology’s shRNA Plasmid Transfection Reagent: sc-108061 (0.2 ml) and shRNA Plasmid Transfection Medium: sc-108062 (20 ml) are recommended. Control shRNAs are available as 20 µg lyophilized plasmid DNA. Each encodes a scrambled shRNA sequence that will not lead to the specific degradation of any known cellular mRNA. Control shRNA Plasmids include: sc-108060, sc-108065 and sc-108066.

RT-PCR REAGENTS
Semi-quantitative RT-PCR may be performed to monitor NR3A gene expression knockdown using RT-PCR Primer: NR3A (m)-PR: sc-61230-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.