SANTA CRUZ BIOTECHNOLOGY, INC.

GFP siRNA (A. victoria): sc-45924

BACKGROUND

Green fluorescent protein (GFP) was originally identified as a protein involved in the bioluminescence of the jellyfish *Aequorea victoria.* GFP cDNA produces a fluorescent product when expressed in prokaryotic cells, without the need for exogenous substrates or cofactors, makes GFP a useful tool for monitoring gene expression and protein localization *in vivo.* Several GFP mutants have been developed, including EGFP, which fluoresces more intensely than the wildtype GFP. Their shifted excitation maxima is more favorable for FACS and fluorescence microscopy as well as double-labeling applications. GFP is widely used in expression vectors as a fusion protein tag, allowing expression and monitoring of heterologous proteins fused to GFP.

PRODUCT

GFP siRNA (A. victoria) 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 GFP shRNA Plasmid (A. victoria): sc-45924-SH and GFP shRNA (A. victoria) Lentiviral Particles: sc-45924-V as alternate gene silencing products.

For independent verification of GFP (A. victoria) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-45924A, sc-45924B and sc-45924C.

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

GFP siRNA (A. victoria) is recommended for the inhibition of GFP expression in *A. victoriatoratia* origin.

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.

PROTOCOLS

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

GENE EXPRESSION MONITORING

GFP (B-2): sc-9996 is recommended as a control antibody for monitoring of 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).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor GFP gene expression knockdown using RT-PCR Primer: GFP (A. victoria)-PR: sc-45924-PR (20 µl, 444 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Ferreiro, I., et al. 2010. The p38 SAPK is recruited to chromatin via its interaction with transcription factors. J. Biol. Chem. 285: 31819-31828.
2. Lovric, M.M. and Hawkins, C.J. 2010. TRAIL treatment provokes mutations in surviving cells. Oncogene 29: 5048-5060.
3. Feng, X., et al. 2011. p53 directly suppresses BNIP3 expression to protect against hypoxia-induced cell death. EMBO J. 30: 3397-3415.
4. Wan, M., et al. 2011. LRP6 mediates cAMP generation by G protein-coupled receptors through regulating the membrane targeting of $G\alpha_s$. Sci. Signal. 4: ra15.
5. Kim, M.H., et al. 2013. Colon cancer progression is driven by APEX1-mediated upregulation of Jagged. J. Clin. Invest. 123: 3211-3230.
6. Suzuki, O.T., et al. 2014. A cellular genetics approach identifies gene-drug interactions and pinpoints drug toxicity pathway nodes. Front. Genet. 5: 272.
7. Woo, S.M., et al. 2015. Melatonin-mediated Bim up-regulation and cyclooxygenase-2 (COX-2) down-regulation enhances tunicamycin-induced apoptosis in MDA-MB-231 cells. J. Pineal Res. 58: 310-320.
8. Ji, Y., et al. 2016. Ultrasound-targeted microbubble destruction of calcium channel subunit α 1D siRNA inhibits breast cancer via G protein-coupled receptor 30. Oncol. Rep. 36: 1886-1892.
9. Baek, M., et al. 2018. Epidermal-specific deletion of TC-PTP promotes UVB-induced epidermal cell survival through the regulation of Flk-1/JNK signaling. Cell Death Dis. 9: 730.
10. Shi, C.S., et al. 2019. SARS-coronavirus open reading frame-8b triggers intracellular stress pathways and activates NLRP3 inflammasomes. Cell Death Discov. 5: 101.
11. Maltaneri, R.E., et al. 2019. Aquaporin-1 plays a key role in erythropoietin-induced endothelial cell migration. Biochim. Biophys. Acta Mol. Cell Res. 29: 118569.
12. Zhang, H., et al. 2020. Ubl4A is critical for mitochondrial fusion process under nutrient deprivation stress. PLoS ONE 15: e0242700.

RESEARCH USE

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