SANTA CRUZ BIOTECHNOLOGY, INC.

cop GFP Control Lentiviral Particles: sc-108084

BACKGROUND

Santa Cruz Biotechnology, Inc. currently offers more than 49,000 target specific shRNA lentiviral particles that encode 19-25 nucleotide (plus hairpin) shRNAs designed to knock down a wide variety of proteins. For each shRNA lentiviral particles product, we offer an appropriate control antibody for confirmation of targeted mRNA silencing by Western Blotting or immunofluorescence. We also offer non-targeted Control shRNA Lentiviral Particles. In addition, we offer the copGFP Control Lentiviral Particles, which contains the full-length copGFP gene with optimized human codons for high level expression of the fluorescent protein from the CMV promoter in mammalian cells. The copGFP marker is a novel natural green monomeric GFP-like protein from copepod (*Pontellina* sp.). It is a non-toxic, non-aggregating protein with fast protein maturation. Highly stable at a wide range of pH (pH 4-12), the copGFP protein does not require any additional cofactors or substrates. The copGFP protein has very bright fluorescence that exceeds at least 1.3 times the brightness of EGFP, the widely used *Aequorea victoria* GFP mutant. The copGFP protein emits green fluorescence with the following characteristics:

Maximum emission wavelength: 502 nm
Maximum excitation wavelength: 482 nm
Quantum yield: 0.6
Extinction coefficient: 70,000 M-1 cm-1

Due to its exceptional properties, copGFP is an excellent fluorescent marker that can be used to monitor delivery of shRNA lentiviral constructs into cells.

PRODUCT

copGFP Control Lentiviral Particles contain a copGFP coding construct for copGFP expression in mammalian cells. copGFP Control Lentiviral Particles is provided as transduction-ready viral particles. Each vial contains 200 µl viral stock containing 1 x 10^6 infectious units of virus (IFU), sufficient for 10-20 transductions. Also see copGFP Control Plasmid: sc-108083 as an alternate control for use in transfection-based experiments.

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.

APPLICATIONS

copGFP Control Lentiviral Particles is recommended for use as a control to monitor and optimize transduction efficiency, thus assuring satisfactory levels of targeted shRNA-knockdown. After transduction, cells stably expressing copGFP may be isolated via puromycin selection.

shRNA LENTIVIRAL PARTICLES SUPPORT REAGENTS

PRODUCT	CAT. #	DESCRIPTION	AMOUNT
Puromycin dihydrochloride	sc-108071	Available for selection and maintenance of cells transfected with the puromycin-N-acetyl-transferase (pac) gene.	25 mg

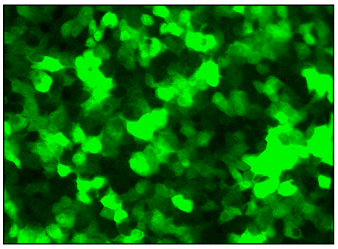
SELECT PRODUCT CITATIONS

1. Wang, K., et al. 2011. Integrative genomics identifies LMO1 as a neuroblastoma oncogene. Nature 469: 216-220.
2. Alhazzazi, T.Y., et al. 2011. Sirtuin-3 (SIRT3), a novel potential therapeutic target for oral cancer. Cancer 117: 1670-1678.
3. Zajkowicz, A., et al. 2013. Nutlin-3a, an MDM2 antagonist and p53 activator, helps to preserve the replicative potential of cancer cells treated with a genotoxic dose of resveratrol. Mol. Biol. Rep. 40: 5013-5026.
4. Schonthaler, H.B., et al. 2013. S100A8-S100A9 protein complex mediates psoriasis by regulating the expression of complement factor C3. Immunity 39: 1171-1181.

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.

DATA



copGFP Control Lentiviral Particles: sc-108084. Fluorescence detection in formalin-fixed HEK293TN cells 48 hours post-transduction, showing Green Fluorescence Protein (GFP) expression at low magnification.

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.