Description

The LYPD1 Lentiviruses are replication incompetent, HIV-based, VSV-G pseudotyped lentiviral particles that are ready to transduce nearly all types of mammalian cells, including primary and non-dividing cells. The particles contain a human LYPD1 (NM_ 001321234.2) driven by a EF1A promoter and a puromycin selection marker (Figure 1).

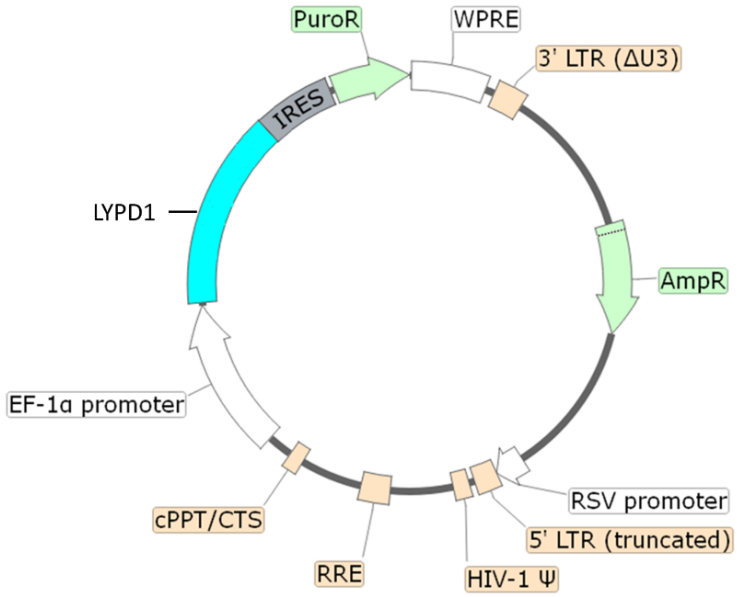

Figure 1: Schematic of the lenti-vector used to generate the LYPD1 Lentivirus

Background

LY6/PLAUR domain containing 1 (LYPD1, also known as Lynx2) is a GPI-anchored membrane protein involved in acetylcholine receptor signaling pathway and cholinergic synaptic transmission. High levels of expression have been observed in areas of the brain associated with depression. In addition, mice in which the LYPD1 gene was deleted show increased anxiety-related behaviors.

Application(s)

Generate stable cell line expressing human LYPD1 with puromycin selection

Formulation

The lentivirus particles were produced from HEK293T cells. They are supplied in cell culture medium containing 90% DMEM + 10% FBS.

Titer

Two vials (500 µl x 2) of lentivirus at a titer ≥10^7 TU/ml. The titer will vary with each lot; the exact value is provided with each shipment.

Storage

Lentiviruses are shipped with dry ice. For long-term storage, it is recommended to store the lentiviruses at -80°C. Avoid repeated freeze/thaw cycles. Titers can drop significantly with each freeze/thaw cycle.

Biosafety

The lentiviruses are produced with SIN (self-inactivation) lentivector which ensures self-inactivation of the lentiviral construct after transduction and integration into the genomic DNA of the target cells. None of the HIV genes (gag, pol, rev) will be expressed in the transduced cells, as they are expressed from packaging plasmids lacking the packing signal and are not present in the lentivirus particle. Although the pseudotyped lentiviruses are replication-incompetent, they require the use of a Biosafety Level 2 facility. BPS Bioscience recommends following all local federal, state, and institutional regulations and using all appropriate safety precautions.

Notes

To generate a LYPD1 stable cell line, remove the growth medium 48 hours after transduction and replace it with fresh growth medium containing the appropriate amount of puromycin (as pre-determined from a killing curve) for antibiotics selection of transduced cells. Visit: https://bpsbioscience.com/cell-line-faq for guidelines on performing a kill curve.

Figures and Validation Data

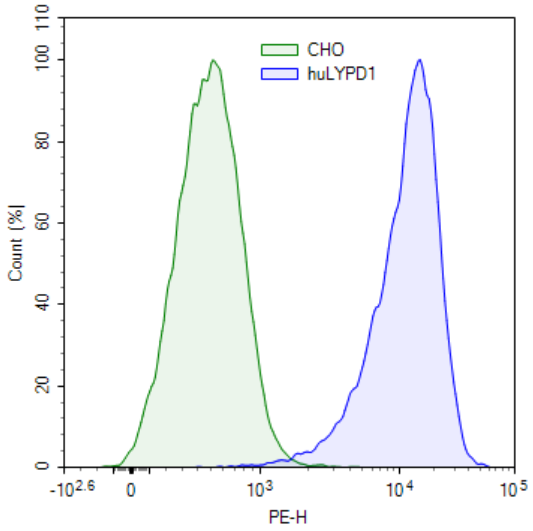

Figure 2. Transduction of CHO-K1 using LYPD1 Lentivirus.
Approximately 50,000 CHO-K1 cells were transduced with 500,000 TU of LYPD1 lentiviruses. After 66 hours of transduction, the cells were selected with 5 µg/ml of puromycin. The puromycin-resistant cell pool was stained using Human LYPD1 Antibody (R&D Systems #AF6855) and PE-conjugated donkey anti-sheep secondary antibody (JacksonImmunoReseach#713-116-147) and analyzed by flow cytometry.

Sequence

Human LYPD1(NM_ 001321234.2)

MQAPRAAPAAPLSYDRRLRGSIAATFCGLFLLPGFALQIQCYQCEEFQLNNDCSSPEFIVNCTVNVQDMCQKEVMEQSAGIMYR
KSCASSAACLIASAGYQSFCSPGKLNSVCISCCNTPLCNGPRPKKRGSSASALRPGLRTTILFLKLALFSAHC

Troubleshooting Guide

Visit bpsbioscience.com/lentivirus-faq for detailed troubleshooting instructions. For all further questions, please email support@bpsbioscience.com.

Related Products

Products	*Catalog #*	*Size*
Trop2 Lentivirus	78710	500 µl x 2
GPC3 Lentivirus	78711	500 µl x 2
Nectin-4 Lentivirus	78712	500 µl x 2
BCMA Lentivirus	78714	500 µl x 2
FcRL5 Lentivirus	78715	500 µl x 2
GPRC5D Lentiviruses	78716	500 µl x 2
Claudin-9 Lentivirus	78721	500 µl x 2
Claudin-3 Lentivirus	78722	500 µl x 2
Claudin-4 Lentivirus	78723	500 µl x 2
PSMA Lentivirus	78726	500 µl x 2