

Description

The Trop2 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 Trop2 (NM_002353.2) driven by an EF1a promoter and a puromycin selection marker (Figure 1).

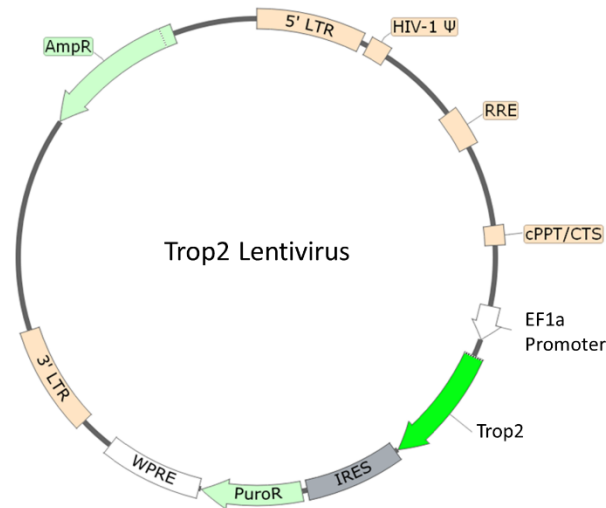


Figure 1: Schematic of the lenti-vector used to generate the Trop2 Lentivirus

Background

Trophoblast cell-surface antigen 2 (TROP-2, also known as tumor associated calcium signal transducer 2, TACSTD2, GA733-1 or M1S1), is a cell surface glycoprotein that is highly expressed in a variety of solid cancers compared to normal cells. Through a variety of signaling pathways, TROP2 regulates cancer growth and metastasis and is a candidate target for antibody drug conjugates (ADC) and immunotherapy.

Application(s)

Generate stable cell line expressing human Trop2 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 μ l x 2) of lentivirus at a titer $\geq 10^7$ 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

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 Trop2 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.

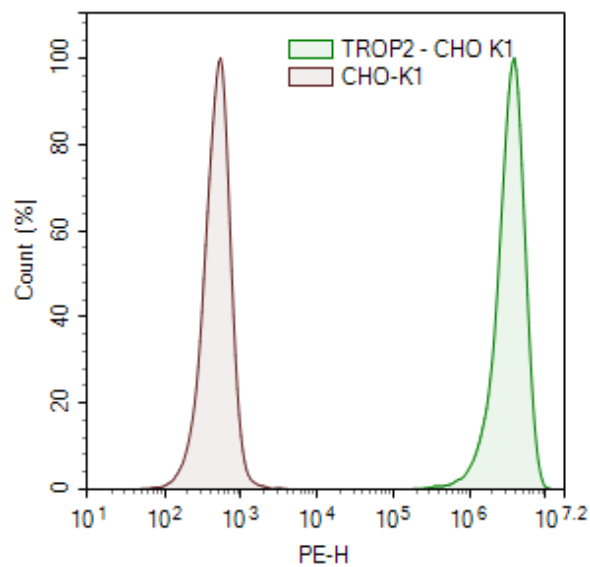
Figures and Validation Data

Figure 2. Generation of a stable Trop2 CHO-K1 cell line using Trop2 lentivirus.

The Trop2 CHO stable cell line was generated by transduction of CHO-K1 cells with Trop2 lentivirus, followed by selection of a clonal cell line that has integrated Trop2 into the chromosome. The expression of human Trop2 was analyzed by flow cytometry using PE anti-human TROP2 Antibody (Biolegend #363803).

Sequence

Human TROP2 (Trophoblast cell-surface antigen 2) sequence (accession number NM_002353.2)

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MARGPGLAPPLRLPLLLLVLAAVTGHTAAQDNCTCPTNKMTVCSPDGGRCQCRALGSGMAVDCSTLTSKCLLLKARMSAP
KNARTLVRPSEHALVDNDGLYDPCDPEGRFKARQCNQTSVCWCVNSVGVRRTDKGDLSLRCDLVRTHHILIDLHRPTAGAF
NHSDLDAELRRLFRERYRLHPKFVAHVHVEQPTIQIELRQNTSQKAAGDVDIGDAAYFERDIKGESLFQGRGGLDLRVRGEPLQV
ERTLIYYLDEIPPKFSMKRLTAGLIAVIVVVVVALVAGMAVLVITNRRKSGKYKKVEIKELGELRKEPSL
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Troubleshooting Guide

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

Related Products

<i>Products</i>	<i>Catalog #</i>	<i>Size</i>
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
LYPD1 Lentivirus	78724	500 µl x 2
PSMA Lentivirus	78726	500 µl x 2