

Description

The FcRL5 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 FcRL5 (NM_031281.3) driven by an EF1a promoter and a puromycin selection marker (Figure 1).

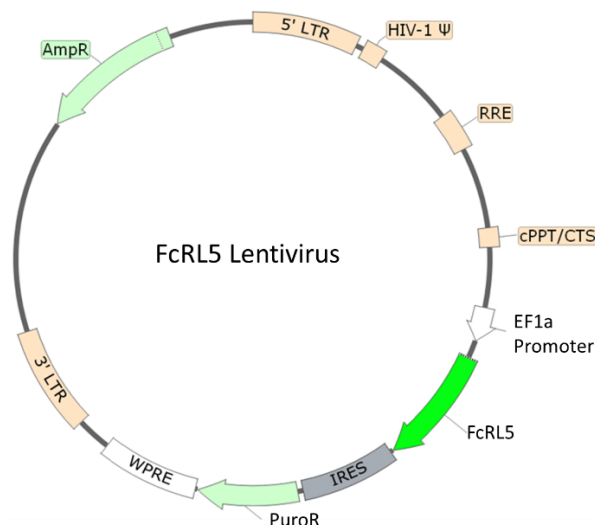


Figure 1: Schematic of the lenti-vector used to generate the FcRL5 Lentivirus.

Background

FcRL5 (Fc receptor-like protein 5) is a single-pass transmembrane protein containing 8 immunoglobulin-like C2-type domains in its extracellular portion, and a short cytoplasmic tail. FcRL5 is expressed in B cells and may be involved in B cell development and lymphomagenesis. Moreover, it is enriched in malignant plasma cells of patients diagnosed with multiple myeloma and is an attractive target for antibody-drug conjugates (ADC) and anti-FcRL5 CAR T cells.

Application(s)

Generate a stable cell line expressing human FcRL5 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 FcRL5 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 antibiotic selection of transduced cells. Visit: <https://bpsbioscience.com/cell-line-faq> for guidelines on performing a kill curve.

Figures and Validation Data

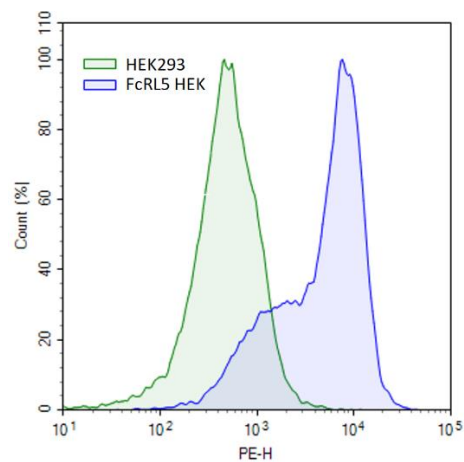


Figure 2. Transduction of HEK293 using FcRL5 Lentivirus.

Approximately 50,000 HEK293 cells were transduced with 500,000 TU of FcRL5 lentivirus. After 66 hours of transduction, the cells were selected with 0.5 $\mu\text{g}/\text{ml}$ of puromycin. The puromycin-resistant cell pool was stained with PE-labeled anti-human FcRL5 antibody (BioLegend #340304) and analyzed by flow cytometry.

Sequence

FcRL5 (NM_031281.3)

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MLLWVILLVLAPVSGQFARTPRPIIFLQPPWTTVFQGERVTLTCKGFRFYSPQKTKWYHRYLGKEILRETPDNILEVQESG
EYRCQAQGSPLSSPVHLDFFSSASLILQAPLSVFEGDSVVLRCRAKAEVTLNNTIYKNDNVLAFLNKRRTDFHIPHACLKDNQ
AYRCTGYKESCCPVSSNTVKIQVQEPFTRPVLRASSFQPISGNPVTLTCTQLSLERSDVPLRFRFRDDQTLGLGWSLSP
NFQITAMWSKDSGFYWCKAATMPYSVISDSPRSWIQVQIPASHPVLTLSPEKALNFEGTKVTLHCETQEDSLRTLRYFY
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QRGSLPILYQFHHEGAALERRSANSAGGVAISFSLTAEHSGNYCTADNGFGPQRSKAVLSVTVPVSHPVLTLSAEAL
TFEGATVTLHCEVQRGSPQILYQFYHEDMPLWSSSTPSVGRVSFSLTEGHSNGNYCTADNGFGPQRSEVSLFVTVP
VSRPILTLRVPRQAQAVVGDLELHCEAPRGSPPILYWYFHEDVTLGSSSAPSGGEASFNLSTAHEHSGNYSCEANGLVA
QHSDTISLSVIVPVRPILTRAPRAQAVVGDLELHCEALRGSSPILYWYFHEDVTLGKISAPSGGGASFNLSTTEHSGIY
SCEADNGLEAQRSEMVTLKVAVPVSRLVTLRAPGTHAAVGDLELHCEALRGSPILYRFFHEDVTLGNRSSPSGGASL
NLSLTAEHSGNYSCEADNGLGAQRSETVTLITGLTANRSGPFATGVAGGLLSIAGLAAGALLYCWLSRKAGRKPASDP
ARSPSDSDSQEPTYHNVPaweELQPvYTNANPRGENVVYSEVRIIQEKKKHAVASDPRHLRNKGSPHIIYSEVKVASTPVS
GSLFLASSAPHR

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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

Products	Catalog #	Size
Trop2 Lentivirus	78710	500 µl x2
GPC3 Lentivirus	78711	500 µl x2
Nectin-4 Lentivirus	78712	500 µl x2
BCMA Lentivirus	78714	500 µl x2
GPRC5D Lentiviruses	78716	500 µl x2
Claudin-9 Lentivirus	78721	500 µl x2
Claudin-3 Lentivirus	78722	500 µl x2
Claudin-4 Lentivirus	78723	500 µl x2
LYPD1 Lentivirus	78724	500 µl x2
PSMA Lentivirus	78726	500 µl x2