

### Description

The FcRL5 (Fc receptor-like protein 5) Lentiviruses are replication incompetent, HIV-based, VSV-G pseudotyped lentiviral particles ready to transduce nearly all types of mammalian cells, including primary and non-dividing cells. These viruses transduce cells with *Macaca fascicularis* (also known as crab-eating macaque or cynomolgus monkey) FcRL5 (XP\_005541423.1) driven by an EF1a promoter. The lentiviruses also transduce a puromycin selection gene (Figure 1).

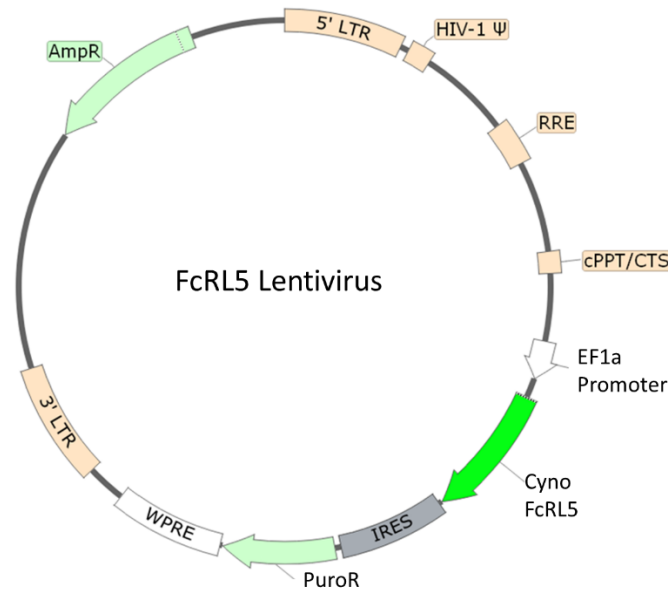


Figure 1: Schematic of the lenti-vector used to generate the cynomolgus FcRL5 Lentivirus.

### Background

FcRL5 (Fc receptor-like protein 5, also known as IRTA2) is a single-pass transmembrane protein of the immunoglobulin superfamily (IgSF) containing 8 immunoglobulin-like C2- type domains in its extracellular portion, and a short cytoplasmic tail. FcRL5 is expressed in the B cell lineage and may be involved in B cell development and lymphomagenesis. Unlike CD20, CD19 and CD22, FcRL5 is still expressed in plasma cells. It is enriched in malignant plasma cells of patients diagnosed with multiple myeloma (MM). FcRL5 has been used as a target in antibody-drug conjugates (ADC) and antiFcRL5 CAR-T cells, with data so far indicating they are effective in the treatment of MM.

### Application(s)

- Expression of FcRL5 in cells of interest.
- Generate stable cell lines expressing cynomolgus FcRL5 (puromycin resistant).

### Formulation

The lentivirus particles were produced in HEK293T cells in medium containing 90% DMEM + 10% FBS. Virus particles can be packaged in custom formulations by special request, for an additional fee.

### Titer

Two vials (500 µl 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**

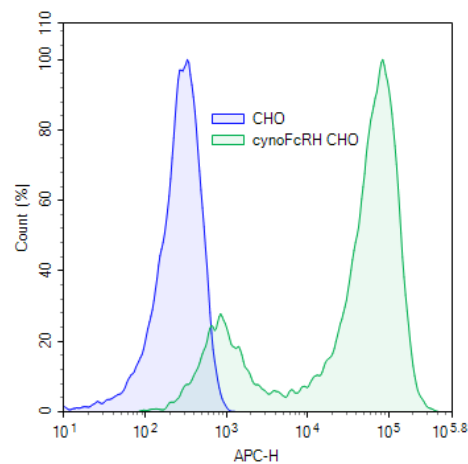
Lentiviruses are shipped with dry ice. For long-term storage, it is recommended to store the lentiviruses at  $-80^{\circ}\text{C}$ . Avoid repeated freeze/thaw cycles. Titers can drop significantly with each freeze/thaw cycle.

**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 an 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. Expression of FcRL5 in CHO-K1 cells using cynomolgus FcRL5 lentivirus.*

CHO-K1 cells were transduced with cynomolgus FcRL5 Lentivirus. 66 hours post-transduction, the cells were selected with puromycin. The puromycin-resistant cell pool was stained using anti-FcRL5 Antibody (Sigma #MABF2102), followed by secondary APC-Goat anti-mouse IgG Antibody (Biolegend #405308) and the expression of cyno FcRL5 was analyzed by flow cytometry (green). Non-transduced CHO-K1 cells were used as negative control (blue).

**Sequence**

Cynomolgus FcRL5 sequence (accession number XP\_005541423.1)

MLLWVILLVLAPVSGQFVRTYKSIIFLQPPWTTVFRGERVNLTCCKGFGFYSSQKTKWYYRHLGKEISRETQKNTLEVQESGEYRCQ  
 AQGSPLSSPVSLDFSSASLILQAPLSVFEGDSVVLRCRAKAEVTLKTTIYKNENVLAFLNKTTDFHISHASLKDNGAYRCTGYKETCCL  
 VSSNTVKIQVQESFTRPVLRVSSFQPIGSPVTLTCETRLSLERSDVPLQFCFFRNDQMLGSGCSLSPKFQITAMWSKDSGFYWCK  
 AATMCYNTTSNSLRSWIQVLIPASHPVLTLSPEKALNFEGTKVKLHCETQEDSLRTLYKFYHDGVPPLRYKSVRCEKGASISFSLTTEH  
 SGNYYCTADNGHGAKPSEAVSLSVTPVSRPVLTLSAKDLISEGAKLTLHCEAQRGSLPIVYQFHHEASLGNRSAHSAGGVAISF  
 SLTADHSGNYYCTANNGFGPQRSEAVLSITVPVSRPVLTLSAEALTFEGATVTLYCEVQRGSPRILYQFYHEDVPLGSNSTPSVG  
 KVSFSLTAHSGNYYCTADNGFGPQRSEAVSLFVTPVSRPILTLRVPRQAQAVVGDLELRCEALRGSPPIMYWYFYHEDVTLGS  
 SSVPSGGEASFNLSTAETHSGNYSCEANGLVAQHSDTISLSVIVPVSRIPTFRAPRAQAVVGDLELHCEALRGSPPIYWFYHED  
 VTLGKISAPSGGGAYFNLSLTTEHSGIYSCEADNGLEAQRSEMVTLKVAVPVSRIPTLRAPRAQAVVGDLELHCEALRGSPILY  
 QFYHEDVTLGNSSALSGGAFFNLSTAETHSGNYSCEADNGLGAQRSETVTLYLTGLTENRSGPVATGVTGGLLSLAGLAAGALLY  
 CWLSRKAGREPASDPCRSPDLDSQEPTYHNVPaweELQPVYSNVNPRGENVVYSEVRIREKKKHAVASNPRHLRNLKGCIIYSE  
 VKVASTPASRCLFLASSAPHR

**Troubleshooting Guide**

Visit [bpsbioscience.com/lentivirus-faq](https://bpsbioscience.com/lentivirus-faq) for detailed troubleshooting instructions. For further questions, email [support@bpsbioscience.com](mailto:support@bpsbioscience.com).

**Related Products**

<i>Products</i>	<i>Catalog #</i>	<i>Size</i>
FcRL5 CHO Cell Line	78375	2 vials
FcRL5 HEK293 Cell Line	78774	2 vials
FcRL5/Firefly Luciferase RPMI 8226 Cell Line	78378	2 vials
FcRL5 Lentivirus	78715	500 µl x 2
GPRC5D Lentiviruses	78716	500 µl x 2