

### Description

CDH11 Lentivirus are replication incompetent, HIV-based, VSV-G pseudotyped lentiviral particles ready to transduce most mammalian cells, including primary and non-dividing cells. These viruses result in the expression of CDH11 (cadherin 11) (NM\_001797.4) driven by an EF1a promoter. The lentiviruses also contain a puromycin selection marker (Figure 1).

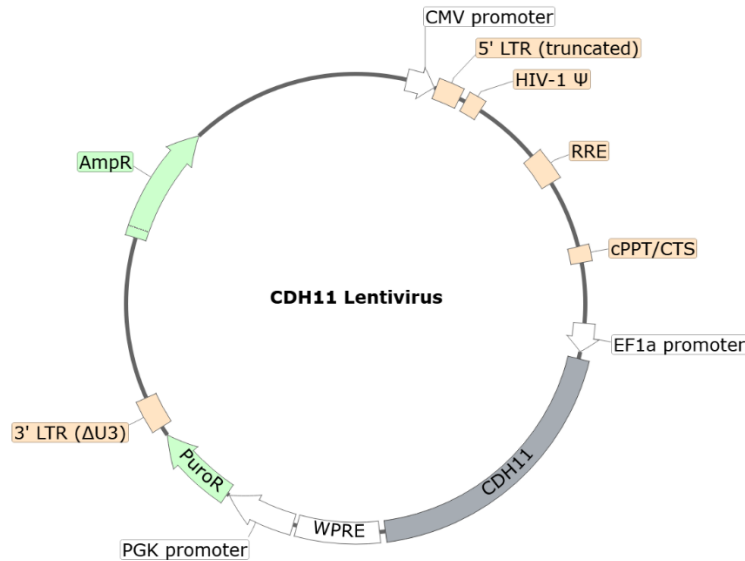


Figure 1. Schematic of the lenti-vector used to generate CDH11 Lentivirus.

### Background

CDH11 (cadherin 11) is a type II cadherin involved in homophilic cell-to-cell interactions. It is found normally in mesenchymal cells, such as the FLS (fibroblast-like synoviocytes) of the synovial lining. It has been reported to increase the invasive capacity of FLS and thus be involved in inflammatory disorders such as rheumatoid arthritis (RA) and systemic sclerosis. The use of anti-CDH11 therapy in animal models has shown promising results. The in-depth study of this protein has linked it to aortic calcification, dermatosis and cancer. Abnormal expression of CDH11 in epithelial cancer cells contributes to tumor progression and metastasis, and therapies targeting CDH11 were able to reduce bone metastases in patients. The development of new therapies targeting CDH11 and a deeper understanding of its role will prove crucial in the treatment of CDH11-linked disorders.

### Application(s)

- Expression of human CDH11 in cells of interest.
- Generate human CDH11 expressing cell pools or stable cell lines by puromycin selection.

### Formulation

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

### Size and 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  $-80^{\circ}\text{C}$  for up to 12 months from date of receipt. Avoid repeated freeze-thaw cycles. Titers can drop significantly with each freeze-thaw cycle.

### Biosafety

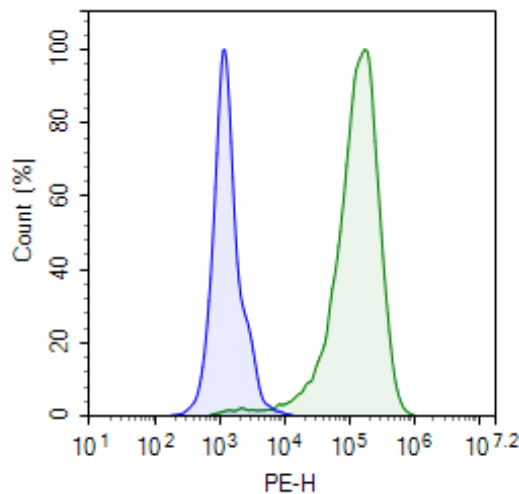


The lentiviruses are produced with a SIN (self-inactivation) lentivector which ensures self-inactivation of the lentiviral construct after transduction and after integration into the genomic DNA of the target cells. None of the HIV genes (*gag*, *pol*, *rev*) will be expressed in the transduced cells, 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 CDH11 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, <https://bpsbioscience.com/kill-curve-protocol>), for antibiotic selection of transduced cells, followed by clonal selection.

### Validation Data



*Figure 2. Expression of CDH11 in HEK293 cells transduced with CDH11 Lentivirus.*

Approximately 100,000 HEK293 cells were transduced with  $1 \times 10^6$  TU ( $100 \mu\text{l}$  of  $10^7$  TU/ml) of CDH11 Lentivirus in the presence of  $5 \mu\text{g/ml}$  of Lenti-Fuse™ Polybrene Viral Transduction Enhancer (#78939). 48 hours post-transduction, the cells were stained with PE anti-human Cadherin 11 Antibody (BioLegend #368703) and analyzed by flow cytometry. The y-axis represents the cell % and the x-axis indicates PE intensity. Blue, HEK293 cells; Green, HEK293 cells transduced with CDH11 lentivirus.

*Data is representative.*

**Sequence**

Human CDH11 sequence (NM\_001797.4)

MKENYCLQAALVCLGMLCHSHAFAPERRGHLRPSFHGHHEKQVLRQSKRGWVWNQFFVIEEYTGPDVPLVGR  
 LHSDIDSGDGNIKYILSGEGAGTIFVIDDKSGNIHATKTLDREERAQYTLMAQAVDRDTNRPLEPPSEFIVKVQDINDNPP  
 EFLHETYHANVPERSNVGTSVIQVTASDADDPTYGNSAKLVYSILEGQPYFSVEAQTGIIRTALPNMDREAKEYHVVIQ  
 AKDMGGHMGGLSGTTKVTITLTDVNDNPPKFPQSVYQMSVSEAAVPGEEVGRVKAKDPDIGENGLVTYNIVDGDGM  
 ESFEITTDYETQEGVIKPKPVDFETKRAYSLKVEAANVHIDPKFISNGPFKDTVTVKISVEDADEPPMFLAPSYIHEVQEN  
 AAAGTVVGRVHAKDPDAANSPIRYSIDRHTDLDRFFITINPEDGFIKTTKPLDREETAWLNITVFAAEIHNHRHQEAKVPVA  
 IRVLDVNDNAPKFAAPYEGFICESDQTKPLSNQPIVTISADDDKDDTANGPRFIFSLPPEIHNPNFTVRDNRDNTAGVYAR  
 RGGFSRQKQDLYLLPIVSDGGIPMSSTNTLTIKVCGCDVNGALLSCNAEAYILNAGLSTGALAILACIVILLVIVLFTL  
 RRQKKEPLIVFEEEDVRENIITYDDEGGGEEDTEAFDIATLQNPDGINGFIPRKDIKPEYQYMPRPGLRPAPNSVDVDDFI  
 NTRIQEADNDPTAPPYDSIQIYGYEGRGSVAGSLSSLESATTDSDLDYDYLQNWGPRFKKLADLYGSKDTFDDDS

**References**Sfikakis P., *et al.*, 2017 *Clinical Immunology* 176: 107-113.Chen X., *et al.*, 2021 *J Cancer* 12(4):1190-1199.**Troubleshooting Guide**

Visit [bpsbioscience.com/lentivirus-faq](https://bpsbioscience.com/lentivirus-faq) for detailed troubleshooting instructions. For lot-specific information and all other questions, please visit <https://bpsbioscience.com/contact>.

**Related Products**

<i>Products</i>	<i>Catalog #</i>	<i>Size</i>
LILRB2 Lentivirus	82451	500 µl x 2
LILRB4 Lentivirus	82452	500 µl x 2
FluoSite™ Anti-CDH17 Antibody, PE-Labeled	102634	25 tests/ 100 tests
CDH6 HEK293 Cell Line	82540	2 vials

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