



# SZABO SCANDIC

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## Produktinformation



Forschungsprodukte & Biochemikalien



Zellkultur & Verbrauchsmaterial



Diagnostik & molekulare Diagnostik



Laborgeräte & Service

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### Lieferung & Zahlungsart

siehe unsere [Liefer- und Versandbedingungen](#)

### Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

### SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

[mail@szabo-scandic.com](mailto:mail@szabo-scandic.com)

[www.szabo-scandic.com](http://www.szabo-scandic.com)

[linkedin.com/company/szaboscandic](https://www.linkedin.com/company/szaboscandic) 

### Description

DLL1 Lentivirus are replication incompetent, HIV-based, VSV-G pseudotyped lentiviral particles that are ready to transduce almost all types of mammalian cells, including primary and non-dividing cells. These particles transduce cells with human DLL1 (delta like canonical notch ligand 1) (NM\_005618.4), driven by a CMV promoter, and a puromycin selection marker (Figure 1).

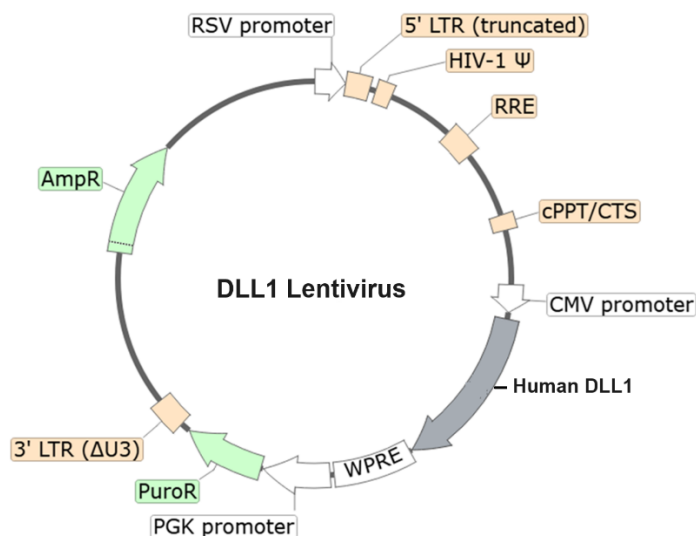


Figure 1. Schematic of the lenti-vector used to generate the DLL1 Lentivirus.

### Background

DLL1 (delta like canonical notch ligand 1) is involved in cell-to-cell communication and in embryonic development, neurogenesis, and tissue homeostasis. It is a member of the Delta-Serrate-Lag2 (DSL) family of ligands that activate the Notch signaling pathway. DLL1 binds to the Notch receptors on neighboring cells, triggering signals that regulate cell fate determination, proliferation, and differentiation. Binding of DLL1 to its receptor triggers the proteolysis of the NCID (notch intracellular domain) by ADAM10/17 (A disintegrin and metalloproteinase 10/17) and  $\gamma$ -secretase, and translocation to the nucleus, where it regulates the transcription of target genes. DLL1 is overexpressed in breast cancer and links to a poor prognosis by promoting cancer cell proliferation, migration, survival, and development of angiogenesis. DLL1-positive cells share similarities with CSC (cancer stem cells), being able to promote metastasis and chemoresistance. The use of DI1.72, a monoclonal DLL1 antibody, impaired tumor growth and metastasis in an ER (estrogen receptor)-positive breast cancer xenograft model. The development of therapeutic strategies to target DLL1, alone or in combinatory therapy, will open new avenues in cancer therapy.

### Application(s)

- Expression of human DLL1 in cells of interest.
- Generation of cell pools or stable cell lines expressing human DLL1 following puromycin selection.

### 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.

### Size and Titer

Two vials (500  $\mu$ 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  $-80^{\circ}\text{C}$  for up to 12 months. Avoid repeated freeze-thaw cycles. Titers can drop significantly with each freeze-thaw cycle.

## Biosafety

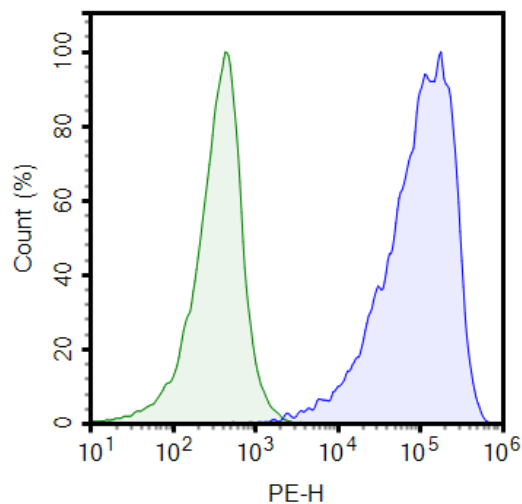


The lentiviruses are produced with a SIN (self-inactivation) lentivector which ensures self-inactivation of the lentiviral construct after transduction and after integration into the genomic DNA of the target cells. None of the HIV genes (*gag*, *pol*, *rev*) will be expressed in the transduced cells, 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 DLL1 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/cell-line-faq/>), for antibiotic selection of transduced cells, followed by clonal selection.

## Figures and Validation Data



*Figure 2. Expression of human DLL1 in CHO cells transduced with DLL1 lentivirus and analyzed by flow cytometry.*

Approximately 100,000 CHO-K1 cells were transduced with 1,000,000 TU of DLL1 Lentivirus. 48 hours post-transduction, transduced cells (blue) and parental cells (green) were stained with PE anti-human Delta-like protein 1 (DLL1) Antibody (Biolegend #346403) and analyzed by flow cytometry. Y-axis represents the % cell number. X-axis indicates PE intensity.

**Sequence**

Human DLL1 sequence (NM\_005618.4)

MGSRCALALAVLSALLCQVWSSGVFELKLQEFVNKKGLLGNRNCCRGGAGPPPCACRTFFRVCLKHYQASVSPEPPCTYGSVTP  
 VLGVDVDFSLPDGGGADSAFNSPIRFPFGFTWPGTFSLIIEALHTDSPDDLATENPERLISRLATQRHLTVGEEWSQDLHSSGRTDLK  
 YSYRFVCDHYGEGCSVFCRPRDDAFGHFTCGERGEKVCNPGWKGPYCTEPICLPGCDEQHGFCDKPGECKCRVGVWQGRYCD  
 ECIRYPGCLHGTCQQPWQCNCQEGWGLFCNQDLNYCTHHKPKNGATCTNTGQGSYTCSCRPGYTGATCELGIDECDPSPC  
 KNGGSCTDLENSYSCTCPPGFYKICELSAMTCADGPCFNGGRCSDSPDGGYSCRCVPVGYSGFNCEKKIDYCSSSPCSNGAKCVD  
 LGDAYLCRCQAGFSGRHCDNDVDDCASSPCANGGTCRDGVNDFSCCPPGYTGRNCSAPVSRCEHAPCHNGATCHERGHRYV  
 CECARGYGGPNCQFLLPELPPGPAVVDLTKLEGQGGPPVAVCAGVILVLMLLGCAAVVVCVRLRLQKHRPPADPCRGETE  
 TMNNLANCQREKDISVSIIGATQIKNTNKKADFHGDHSADKNGFKARYPAVDYNLVQDLKGGDDTAVRDAHSKRDTKCQPQSS  
 GEEKGTPTLRGGEASERKRPDSCSTSKDTKYQSVYVISEEKDECVIATEV

**References**Silva G., *et al.*, 2021 *Cancers (Basel)* 13(16): 4074.**Troubleshooting Guide**

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

**Related Products**

<i>Products</i>	<i>Catalog #</i>	<i>Size</i>
DLL4 CHO Cell Line	82217	2 Vials
DLL4 Lentivirus	82341	500 µl x 2
Notch1: DLL4[Biotinylated] Inhibitor Screening Chemiluminescence Assay Kit	82284	96 reactions
DLL4, Fc Fusion, Avi-Tag Recombinant	101903	10 µg/50 µg
DLL4, Fc Fusion, Avi-Tag, Biotin-Labeled Recombinant	101904	10 µg/50 µg
DLL1, Avi-Tag, His-Tag, Biotin-Labeled Recombinant	101810	25 µg/100 µg

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