

Description

The CEACAM6 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 CEACAM6 (NM_002483.7) driven by an EF1A promoter and a puromycin selection marker (Figure 1).

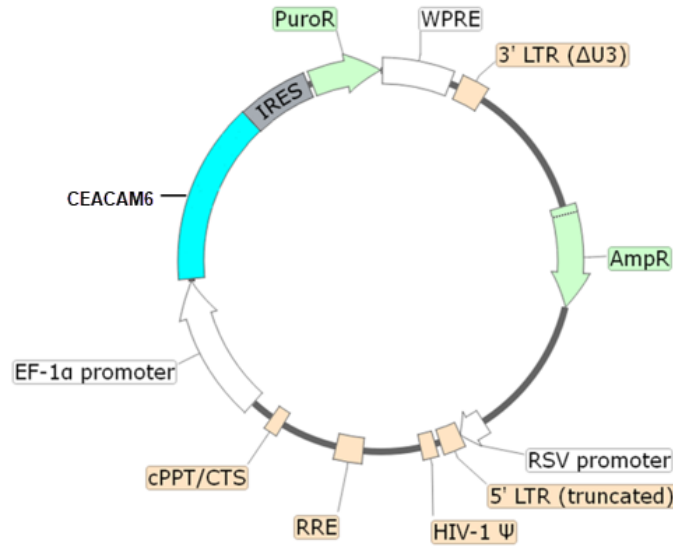


Figure 1: Schematic of the lenti-vector used to generate the CEACAM6 Lentivirus

Background

CEA cell adhesion molecule 6 (CEACAM6, also known as CD66c) is a glycosyl phosphatidyl inositol (GPI)-anchored cell surface glycoprotein that serves as a cell adhesion protein. CEACAM6 is considered a clinical biomarker and candidate therapeutic target in melanoma, lung, colorectal, and pancreatic cancers. It may play a role in tumor progression through regulation of cell migration, invasion, and anoikis, promoting metastasis. It is also known to affect the sensitivity of tumor cells to adenovirus infection, and it serves as a receptor for E. coli adhesion to the surface of intestinal cells in patients with Crohn's disease.

Application(s)

Generate a stable cell line expressing human CEACAM6 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



The lentiviruses are produced with SIN (self-inactivation) lentivector which ensures self-inactivation of the lentiviral construct after transduction and 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 CEACAM6 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

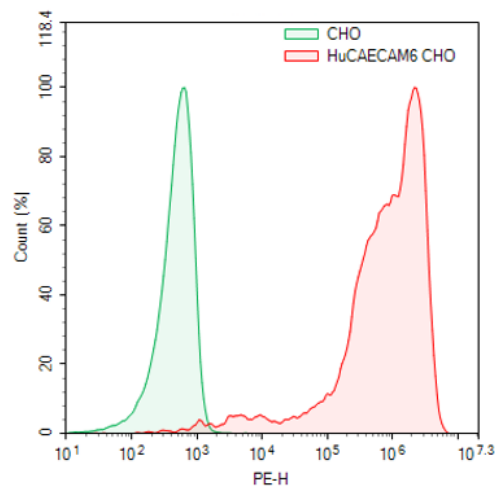


Figure 2: Transduction of CHO-K1 using CEACAM6 Lentivirus.

Approximately 50,000 CHO-K1 cells were transduced with 500,000 TU of CEACAM6 lentivirus. After 66 hours of transduction, the cells were selected with 5 µg/ml of puromycin. The puromycin-resistant cell pool was stained using PE anti-human CD66a/c/e Antibody (Biolegend #342303) and analyzed by flow cytometry.

Sequence

Human CEACAM6 (NM_002483.7)

MGPPSAPP CRLHVPWKEVLLTASLLTFWNPPTAKLTIESTPFNVAEGKEVLLLAHNLPQNRIGYSWYKGERVDGNSLIVGYVIGT
 QQATPGPAYSGRETIYPNASLLIQNVTQNDTGFTLQVIKSDLVNEEATGQFHVYPELPKPSISSNNSNPVEDKDAVAFTCEPEVQ
 NTTYLWWVNGQSLPVSRLQLSNGNMTLTLSSVKRNDAGSYECEIQNPASANRSDPVTNLNLYGPDVPTISP KANYRPGENLN
 LSCHAASNPPAQYSWFINGTFQQSTQELFIPNITVNNSGSYMCQAHSATGLNRTTVMITVSGSAPVLSAVATVGITIGVLARV
 ALI

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>
CEACAM5 Lentivirus	78719	500 µl x 2