

Human Low Density Lipoprotein Receptor Class A Domain Containing 3 (LDLRAD3) Stable Cell Line

CATALOG NUMBER: CL-LDLRAD3-01

Introduction

Human LDLRAD3 is a transmembrane protein characterized by multiple LDL receptor class A domains, which are involved in ligand binding and endocytosis. LDLRAD3 has been identified as a functional entry receptor for Venezuelan Equine Encephalitis Virus (VEEV), facilitating viral attachment and internalization. This receptor-virus interaction plays a critical role in VEEV pathogenesis, making LDLRAD3 a valuable target for antiviral screening and mechanistic studies of alphavirus infection.

Description

This stable HEK293 cell line has been genetically engineered to express recombinant human LDLRAD3 (GenBank Accession No. NP_777562.1), localized to the cell surface. Functional validation was performed using VEEV pseudoviral particles, confirming receptor-mediated viral entry and suitability for virus-host interaction studies.

Applications

- High-throughput screening of human LDLRAD3 antagonists
- Mechanistic studies of VEEV entry and pathogenesis

Functional Validation

- **Assay performed:**
 - RT-qPCR for VLDLR transcript expression
 - Pseudovirus infection assay using VEEV particles
- **Post-thaw viability:** >2.5 million viable cells per vial on Day 2
- **Mycoplasma status:** Negative (tested and confirmed free of contamination)

Product Contents

- Stable VLDLR-expressing cells: 1 mL (2×10^6 cells/mL) in DMEM, 10% FBS, 10% DMSO

Growth & Culture Conditions

- Cell type: Adherent
- Growth medium: 90%DMEM+10%FBS+1 ug/mL puromycin
- Freezing medium: 90% complete growth medium + 10% DMSO

Storage Instructions

Upon receipt, immediately transfer the vial to a storage temperature below -130°C, preferably in liquid nitrogen vapor phase. Avoid repeated freeze-thaw cycles.



Recommended Cell Infection Assay Protocol

1. Cell Seeding:

- Seed ~20,000 LDLRAD3 or HEK293 cells per well in 96-well plates (50 μ L/well)
- Alternatively, seed ~5,000 cells per well in 384-well plates (12.5 μ L/well)
- Use DMEN + 10% HyClone™ FetalClone™ II Serum (no antibiotics)

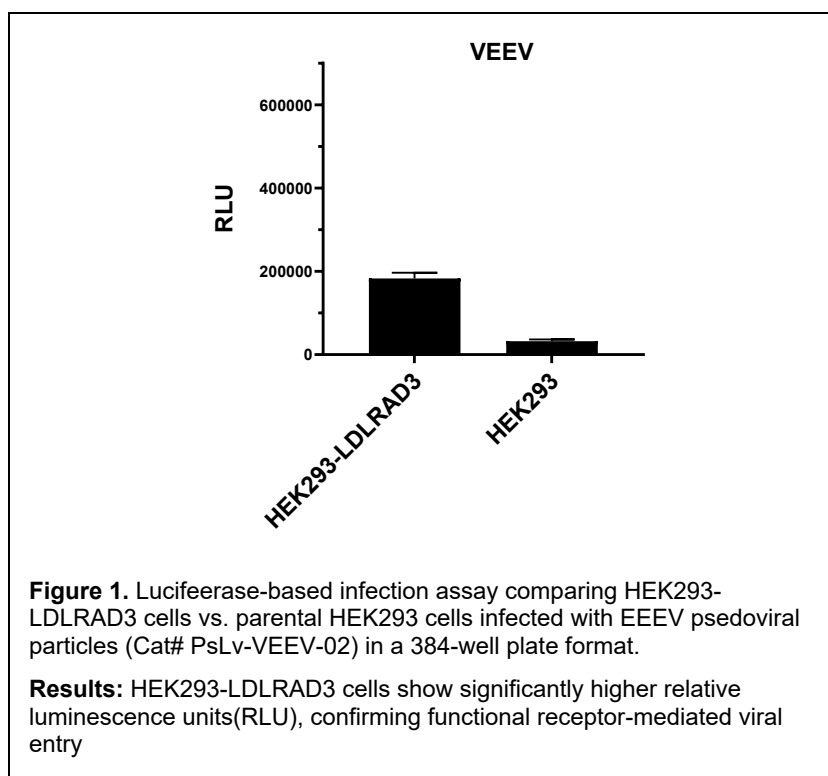
2. Infection:

- Add 50 μ L pseudoviral particles per well (12.5 μ L for 384-well)
- Centrifuge at 700 rpm for 15 min at 4 °C
- Incubate for 72 hrs at 37°C

3. Luciferase Activity Measurement:

- Optional: Remove medium for cleaner signal (higher RLU if medium is retained)
- Add 100 μ L luciferase assay reagent (25 μ L for 384-well)
- Read luminescence using BioTek Synergy 2 plate reader

Functional Assay Data



Restriction

This cell line is not allowed to be transferred to other laboratory or other company. For purchasing this cell line, please contact eEnzyme LLC at info@eEnzyme.com, Telephone: +1 (240) 683 5851, FAX: +1 (240) 683 5852



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