Ebola Pseudoviral Particles – Bundibugyo Ebolavirus

CATALOG NUMBER: PsLv-BDBV-2026

Description

Ebola virus enters host cells through its surface glycoprotein (GP), which binds to host receptors and mediates membrane fusion.

eEnzyme's PsLv-BDBV-2026 pseudoviral particles are **replication-deficient lentiviruses pseudotyped with the GP from Bundibugyo ebolavirus**, derived from the **2026 Democratic Republic of the Congo outbreak sequence (PP_006XHL9.2)**. These particles encode **firefly luciferase (FLuc)**, enabling quantitative measurement of GP-mediated viral entry.

This pseudovirus system isolates the entry step from the rest of the viral life cycle, providing a robust and safe platform for studying Ebola GP function, neutralization, and inhibitor screening.

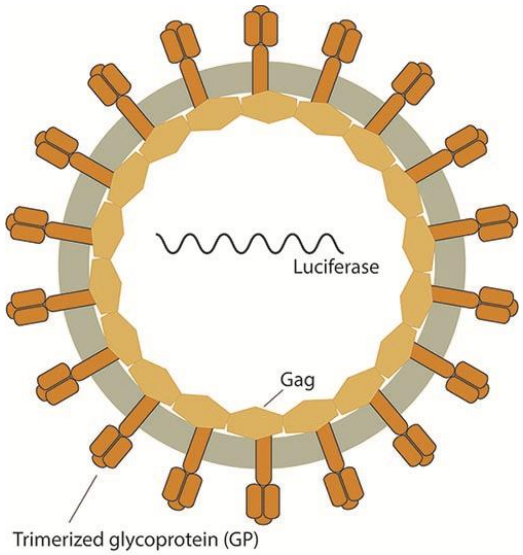

Figure 1. Illustration of the replication-deficient lentivirus pseudotyped with Ebola glycoproteins

Applications

Optimized for use with eEnzyme's Firefly Luciferase Assay Kit (Catalog # CA-L165), these pseudoviruses are ideal for:

- Screening inhibitors of Ebola virus entry and GP-mediated fusion
- Evaluating neutralizing antibodies against Bundibugyo ebolavirus
- High-throughput infection assays in 96-, 384-, and 1536-well formats

Key Features

- **Robust Signal:** High signal-to-noise ratio for sensitive detection
- **HTS-Compatible:** Validated for multi-well formats
- **Convenient Format:** Ready-to-use for luciferase-based entry assays

Product Contents

- Volume: 1 mL or 5 mL per vial
- Format: Lentivirus-based pseudoviral particles
- Titer: >1.0 x 10^7 particles/mL

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Storage & Stability:

- Store immediately at -70°C upon receipt
- Thaw rapidly at room temperature (<30 min, no shaking); use immediately
- Do not aliquot or refreeze
- Shelf life: 6 months from shipping date when stored at -70°C

Assay Protocol

Cell Infection

1. Seed HEK293 cells:
   - 96-well: 20K cells/well in 50 µL DMEM + 10% HyClone™ FetalClone™ II Serum (no antibiotics)
   - 384-well: 5K cells/well in 15 µL
2. Incubate overnight for adherence
3. Replace media and add pseudoviral particles:
   - 96-well: 50 µL/well
   - 384-well: 12.5 µL/well
   - Centrifuge at 700 rpm for 15 min at 4°C
4. Incubate for 2 hrs at 37°C
5. Add fresh DMEM + 10% serum (same volume as above)
6. Incubate for 48-72 hrs at 37°C

Luciferase Readout

1. Without removing supernatant, add luciferase assay working solution:
   - 96-well: 100 µL/well
   - 384-well: 25 µL/well
   - Use eEnzyme's Firefly Luciferase Assay Kit (Catalog # CA-L165)
2. Measure luminescence using a microplate reader (e.g., BioTek Synergy 2, gain 255)

Representative Data

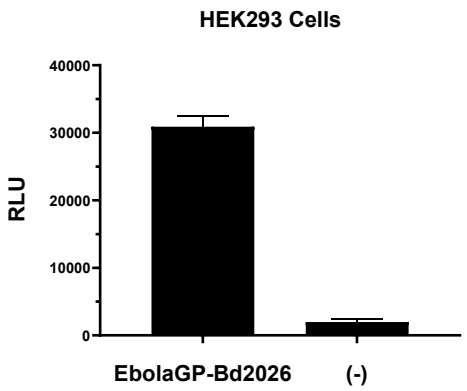

Figure 2: Assay: HEK293 cells infected with PsLv-BDBV-2026 pseudovirus
Readout: Relative Luminescence Units (RLU)
EbolaGP-Bd2026: Ebola GP pseudovirus (PsLv-BDBV-2026)
(-): Negative control using lentivirus without envelope protein

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