

HIV Infection Enhancer (enhance infection rate by 5-20 folds)

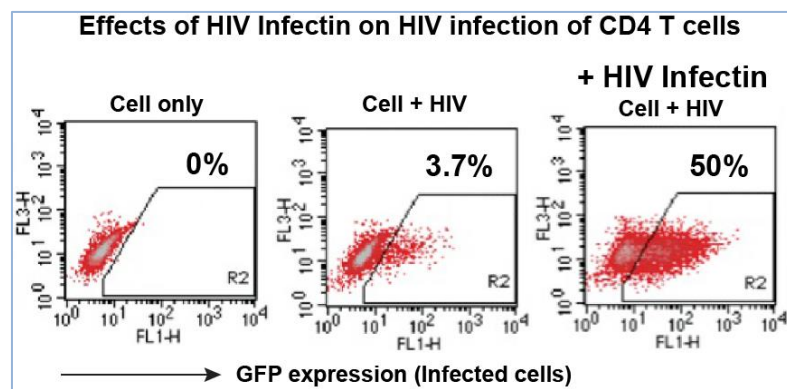
— A cutting-edge technology in enhancing viral infectivity

Cat.#: H901-02 (0.2 ml), H901-1 (1 ml)

Introduction

HIV Infection Enhancer is designed to enhance HIV penetration through the cortical actin barrier, thereby greatly facilitating productive viral infection. HIV Infection Enhancer can be used to facilitate the infection of a variety of host cells by HIV (both X4 and R5 viruses). HIV Infection Enhancer is developed based on the scientific theory that the actin cytoskeleton is a natural barrier for HIV entry and intracellular migration.

HIV Infection Enhancer can enhance HIV infection rate by 5-20 folds.



Applications

Use with the HIV Rev-dependent reporter cells and any other HIV target cells:

- ✓ Anti-HIV drug screenings via 1-step infection
- ✓ Biochemistry characterization (DNA, RNA, protein) of HIV infected cells
- ✓ HIV viral protein interaction with viral and host cell proteins
- ✓ Screenings for broadly neutralizing antibodies (bnAB) (from laboratory and clinical research samples)
- ✓ Neutralizing antibody quantifications
- ✓ HIV cell-cell transmission and HIV drug-resistance studies
- ✓ HIV host restriction factor (HRF) studies
- ✓ HIV host dependency factor (HDF) studies
- ✓ Low-level HIV gene expression assessments
- ✓ HIV pre-integration transcription studies

- ✓ HIV latency and reactivation studies
- ✓ HIV outgrowth detection following reactivation
- ✓ HIV tropism determinations

Important

- ✓ Once thawed, the HIV Infection Enhancer should be stored at 4°C, and is stable for 3 months. Do not re-freeze and do not leave HIV Infection Enhancer at room temperature.
- ✓ HIV Infection Enhancer is an HIV-specific infectivity enhancer and works with any HIV-receptive cell line to enhance HIV infectivity rates. HIV Infection Enhancer promotes productive viral infection 5 – 20 folds.

Table 1. HIV Infection Enhancer is formulated as 10X concentrated

Item	Cat No.	QTY	Storage
HIV Infection Enhancer	H901-02	200 µl of 10X solution	Store at -20°C for 12 months. Store at 4°C for up to 3 months once thawed.
	H901-1	1 ml of 10X solution	

HIV Infection Protocol (see Table 2 for scale-up recommendations)

- 1) Count cells to be infected and pellet cells by centrifugation at 300 x g for 5 minutes.
Note: Cell viability should be ≥ 80%.
- 2) Resuspend cells in complete media at concentration of ~ 2 x 10⁶ cells /ml.
- 3) Use 100 µl of cells (~2 x 10⁵ cells) per infection.
- 4) Pre-treat cells by adding 10 µl of HIV Infection Enhancer (10X) so that the HIV Infection Enhancer concentration is 1X. Mix and incubate for 2 hours. *For best results, the use of HIV Infection Enhancer is required for use with the HIV Rev-dependent Reporter cells.*
- 5) Add virus to the cells and mix. Note volume of virus used.
- 6) Add HIV Infection Enhancer (10X) to 1/10 of the virus volume used. E.g. If 100 µl of virus used, add 10 µl of HIV Infection Enhancer. Incubate at 37°C for 2~4 hours.
- 7) Wash Cells: add an additional 1 ml fresh complete media. Pellet cells as above and remove supernatant. (Optional) Repeat one time for a total of 2 washes.
- 8) After washing, resuspend cells in 1 ml complete medium.
- 9) Culture and utilize cells as normal.

Table 2: Scale up recommendations for HIV Infection using HIV Infection Enhancer

Cell number for infection	Cell Vol	HIV Infection Enhancer (10X)	Final Cell Culture (Vol)
2×10^5	100 μ l	10 μ l	1 ml
5×10^5	250 μ l	25 μ l	2.5 ml
1×10^6	500 μ l	50 μ l	5 ml
2×10^6	1 ml	100 μ l	10 ml
5×10^6	2.5 ml	250 μ l	25 ml
1×10^7	5 ml	500 μ l	50 ml
5×10^7	25 ml	2.5 ml	250 ml
1×10^8	50 ml	5 ml	500 ml

Rev-dependent Reporter Cells

Product	Catalog	Description	Size
HIV Infection Enhancer	H901-02, H901-1	HIV Infection Enhancer, (enhance infection rate 5-20 folds)	0.2 ml, 1 ml
Rev-A3R5-GFP	HRC-1	Derived from A3.01 cells. Natural CD4, CXCR4 and α 4 β 7 expression. Constitutive CCR5 expression. Rev-dependent GFP expression	5 X 10 ⁶ cells/vial
Rev-A3R5-GFP/Luc	HRC-2	Derived from A3.01 cells. Natural CD4, CXCR4 and α 4 β 7 expression. Constitutive CCR5 expression. Rev-dependent GFP and Luc expression.	5 X 10 ⁶ cells/vial
Rev-A3-GFP/Luc	HRC-3	Derived from A3.01 cells. Natural CD4 and CXCR4 expression. Rev-dependent GFP and Luc expression.	5 X 10 ⁶ cells/vial
Rev-CEM-GFP	HRC-4	Derived from CEM-SS cells. Natural CD4 and CXCR4 expression. Rev-dependent GFP and Luc expression.	5 X 10 ⁶ cells/vial
Rev-CEM-GFP/Luc	HRC-5	Derived from CEM-SS cells. Natural CD4 and CXCR4 expression. Rev-dependent GFP and Luc expression.	5 X 10 ⁶ cells/vial
Rev-CEM-Luc	HRC-6	Derived from CEM-SS cells. Natural CD4 and CXCR4 expression. Rev-dependent Luc expression.	5 X 10 ⁶ cells/vial

References

Yoder A, Yu D, Dong L, Iyer SR, Xu X, Kelly J, et al. HIV envelope-CXCR4 signaling activates cofilin to overcome cortical actin restriction in resting CD4 T cells. *Cell*. 2008; 134(5):782-92. PubMed PMID: 18775311.

HIV Infection Enhancer is intended for Research Use Only and are not for diagnostic or therapeutic purposes or uses in humans or animals.

Customer also buy:

Best Seller	Cat. #	Feature
Real 3D Cell Culture Gel (soft, medium, stiff)	P720	real 3D, cost less than Matrigel
1-Drop PCR Mix (squeeze 1 drop do PCR, no pipetting)	W2599-5	squeeze bottle makes PCR easier
Exosome Isolation Solution (cell media, serum)	P527	polysaccharide method, 95% pure exosome, easy protocol
Endosome Isolation Kit	P528	Fast: 20 minutes hands-on
Plasma Membrane Protein Extraction Kit	P503	Fast: 45 minutes

Virus Production	Cat. #	Feature
Lenti / Retrovirus 10x Titer-Up	P906 / P909	package 10x more virus
Lenti / Retrovirus Packaging Kit	P904 / P905	3 rd generation packaging system
Transfection Reagent	P901	Higher efficiency than lipid-based kits
Cell Line Gene Editing - special expertise	3 ~ 6 mo.	State-of-the-art
Lenti / Retrovirus Packaging high/ultra-high titer	2 weeks	10-year experience