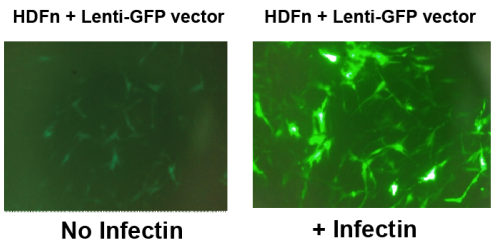
Virongy.com

Turbo-Infectin ™

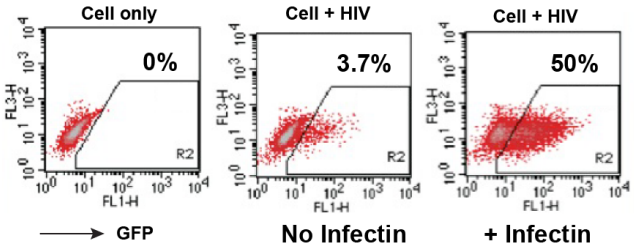
A Virongy proprietary cutting-edge technology

Turbo-Infectin™ is a viral infection enhancer designed to facilitate viral attachment to cells and viral penetration of the cortical actin barrier, which greatly enhance productive viral infection. **Turbo-Infectin™** can be used to facilitate the infection of a variety of host cells by different viruses and viral vectors. **Turbo-Infectin™** can enhance viral infection rates by 3 to 30 fold. Virongy developed **Turbo-Infectin™** based on **Infectin™** and its scientific theory that the actin cytoskeleton is a natural barrier for viral entry and post-entry intracellular migration (Yoder et al., ***Cell***, 2008, 134:782). **Turbo-Infectin™** is formulated to combine **Infectin™** with additional technologies that facilitate virus attachment to target cells.

Effects of Infectin™ on Lentiviral Transduction of HDFn cells



Effects of Infectin™ on HIV infection of CD4 T cells



Important

- **Turbo-Infectin™** should be stored at 2-8°C, and is stable for 3 months. *Do not freeze and leave Turbo-Infectin™ at room temperature.*
- **Turbo-Infectin™** viral infection enhancer works with most cell lines to enhance viral infection. On average, Turbo-Infectin™ enhances productive viral infection by **3- to 30-fold***.
- **Turbo-Infectin™** is newly formulated into **Buffer A** and **Buffer B**, both as 10X concentrated.

(**The degree of enhancement is affected by the types of viruses and cells. Enhancement is strongest for enveloped viruses entering cells via membrane fusion.)*

Applications

- Enhancing lenti- or retroviral transduction of target cells
- Enhancing infection rates of other enveloped viruses
- Facilitating recovery of infectious viruses from cell or tissue cultures
- Facilitating anti-viral drug screening efficiency

Infectin is intended for Research Use Only and is not for diagnostic or therapeutic purposes or uses in humans or animals.

VBI-HB-005 –V061223: Virongy Biosciences Inc, 11225 Assett Loop. Suite 111, Manassas, VA 20109, U.S.A.
Email: Info@virongy.com Tel: (703) 257 5500

Protocol

Example – Turbo-Infectin™ enhances lentiviral infection of suspension CEM-SS T cells:

(*please see **Table 1** for scale-up recommendation*)

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 a concentration of ~2 x 10^6 cells ml^{-1}.
3) Use 100 µl of cells (~2 x 10^5) per infection.
4) Pre-treat cells by adding 10 µl of **Buffer A** (**10X**) and 10 µl **Buffer B** (**10X**) so that Turbo-Infectin™ concentration is approximately **1X**. Mix and incubate for 10-30 minutes at 37°C in a Co2 incubator
5) Take out virus from freezer and thaw on ice. **Record the volume of virus used**.
6) To the virus solution, add **Buffer A** (**10X**) and **Buffer B** (**10X**) in an amount equal to 1/10 of the virus volume used, *e.g.,* if 100 µl of virus is used for infection, add 10 µl of **Buffer A** and 10 µl of **Buffer B.**
7) Mix gently and add the virus mixture to cells, and infect for 2 hours at 37°C in a Co2 incubator.
8) Centrifuge the virus-cell tube at 300 x *g* for **30 minutes**

   (* *For optimal results, we recommend centrifuging for no less than 30 minutes.*)

9) Remove supernatant, add 1 ml fresh complete media.
10) Culture infected cells for 2-3 days to quantify viral infection.

Table 1: Scaleup recommendations for viral infection using Turbo-Infectin™

Cell number (For infection)	Cell Volume	Buffer A and B (10X)	Final Cell Culture (Vol)
2 x 10^5	100 µl	10 µl **Buffer A** + 10 ul **Buffer B**	1 ml
5 x 10^5	250 µl	25 µl **Buffer A +** 25 µl **Buffer B**	2.5 ml
1 x 10^6	500 µl	50 µl **Buffer A +** 50 µl **Buffer B**	5 ml
2 x 10^6	1 ml	100 µl **Buffer A +** 100 µl **Buffer B**	10 ml
5 x 10^6	2.5 ml	250 µl **Buffer A +** 250 µl **Buffer B**	25 ml
1 x 10^7	5 ml	500 µl **Buffer A +** 500 µl **Buffer B**	50 ml
5 x 10^7	25 ml	2.5 ml **Buffer A +** 2.5 ml **Buffer B**	250 ml
1 x 10^8	50 ml	5 ml **Buffer A +** 5 m **Buffer B**	500 ml

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.

To order: Visit us at: www.virongy.com
Email: info@virongy.com: Tel: (703) 257 5500