

TF Reporter Lentivirus NFkB-TAG-Puro (LTV-0002-1)

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BACKGROUND

NF- κ B is a protein complex that controls transcription of DNA, cytokine production and cell survival. NF- κ B is found in almost all animal cell types and is involved in cellular responses to stimuli such as stress, cytokines, free radicals, heavy metals, ultraviolet irradiation, oxidized LDL, and bacterial or viral antigens. NF- κ B plays a key role in regulating the immune response to infection. Incorrect regulation of NF- κ B has been linked to cancer, inflammatory and autoimmune diseases, septic shock, viral infection, and improper immune development. NF- κ B has also been implicated in processes of synaptic plasticity and memory.

PRODUCT

NFkB-TAG-Puro lentiviral particles are a high-quality, fluorescent lentiviral reporter system, which can be used to readout NFkB transcriptional activity in human or mouse cells. The NFkB responsive elements drive expression of the reporter in response to NFkB, making the product useful for the sensitive detection of NFkB transcriptional activity. Each vial contains $\geq 5 \times 10^6$ TU in 200-300 μ L serum-free RPMI 1640 medium. The lentiviral particles are purified by PEG precipitation and sucrose gradient centrifugation and are ideal for studying NFkB activity in difficult-to-transfect cells including primary and/or thawed cells.

VECTOR INFO

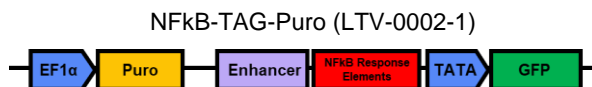


Fig. 1. Vector diagram depicting the region flanked by LTRs

Reporter: GFP Selection: Puromycin
Response Element: NFkB Pseudotype: VSV-G

Vector Description: NFkB-TAG-Puro is a derivation of the LipExoGen Lentiviral TF/Promoter Reporter General Vector construct. It contains puromycin resistance gene downstream of the human EF1 α promoter to facilitate generation of stable cell lines. NFkB responsive elements are arranged as DNA tandem repeats upstream of a minimal TATA promoter-driven reporter (GFP), and downstream of an optimized

minimal enhancer of the human CMV promoter (Fig. 1). When the signal pathway/TF is activated, the mini enhancer synergizes with TF binding to response elements to amplify expression of the fluorescent (GFP/RFP) or luciferase (Luc) reporter, with minimal enhancement of background (Fig. 2).

DATA

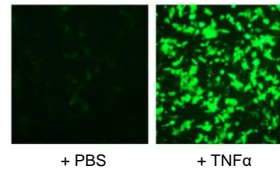


Fig. 2. Analysis of NFkB-TAG-Puro reporter fluorescence. HEK293FT cells were transfected with NFkB-TAG-Puro for 24-36 hrs,

then stimulated with TNF α or PBS for ~12 hrs. GFP reporter activation was then visualized by fluorescence microscopy of the living cells.

APPLICATIONS

This product can be used to study NFkB activity. The lentiviral particles are ultra-purified and suitable for transduction of difficult-to-transfect cells such as thawed or primary cells. Stable cell lines can be generated using puromycin selection. NFkB activity can also be readout via the GFP reporter using common fluorescence detection techniques such as flow cytometry or fluorescence microscopy.

STORAGE

Avoid freeze-thaw cycles. Upon receipt, keep at -80°C and thaw immediately prior to use. After first use, make aliquots and promptly return to -80°C. Stable for one year from the date of shipment. Refer to MSDS for safety.

RESEARCH USE

For research use only. Not for use in therapeutic or diagnostic applications.

CUSTOMIZATION

We offer custom lentiviral particles like this, usually for the same price as the listed item. Scan the QR code for details or just email us at info@lipexogen.com.

