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From invention to innovation

# DUAL-COLOR HIV VECTOR TO PRODUCE, IDENTIFY AND ISOLATE LATENTLY INFECTED CD4+ T-CELLS

A new tool to create an *in vitro* HIV-latency cell model in order to investigate its molecular mechanisms and to evaluate the potency of drug candidates against HIV reactivation

HIV ▪ Dual color vector ▪
Latently infected CD4+ T lymphocytes ▪ HIV reservoirs

## APPLICATIONS

- Drug discovery : *in vitro* screening of drug candidates against HIV reactivation
- Research : study the molecular mechanisms of HIV-latency

## DEVELOPMENT PHASE

Tool development completed

## INTELLECTUAL PROPERTY

International patent application
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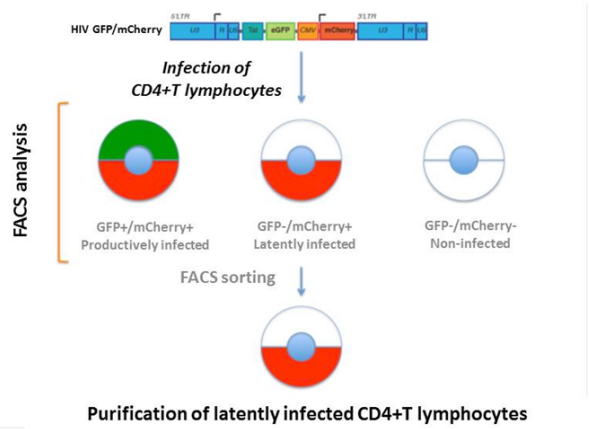
## PRESENTATION

Latently infected CD4+ T lymphocytes form the major obstacle to HIV eradication. Elimination of all latent reservoirs is imperative for eradication of the virus from infected individuals. However, the study of HIV latency has been hindered by the relatively low number of latently infected cells within patients and by the lack of relevant *in vitro* latency cell models.

The present offer relates to the development of a **dual color HIV vector allowing the production, identification and isolation of latently infected primary human CD4+ T-cells**. The minigenome contains two different fluorescent cassettes: a first marker cassette wherein a HIV LTR promoter controls the expression of a HIV tat coding sequence and the GFP gene; and a second marker cassette wherein the constitutive CMV promoter controls the expression of the mCherry gene. This tool enables **the assessment of drug candidates and therapeutic strategies aimed at purging the latent HIV reservoirs and creates a performing i*n vitro* cell model to investigate the molecular mechanisms of HIV latency**.




## COMPETITIVE ADVANTAGES

- The vector is Biosafety Level-2 compliant and not cytotoxic
- The resulting cell model mimics the *in vivo* HIV reservoirs
- The resulting cell subpopulations (infected, latently infected, not infected) are easily sortable by cytometry