

HOW TO LABEL SPECIFIC CELLS OR TISSUES *IN VITRO* AND *IN VIVO*?

The use of specific promoters allows the expression of a gene of interest under specific conditions. Discover the applications that our premade products allow, ideal for testing your future experiments with small quantities.

Tissue or cell-specific promoters:

1. To label specific cells or tissues *in vitro* and *in vivo*

[Click here](#) for an overview of cell and tissue specific promoters available.

► *In vitro* application with the liver specific promoter APOA2

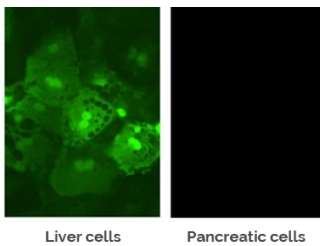


Figure 1: Transduction of liver (Hepatocytes) and pancreatic B cells using specific promoter ApoA2 (apolipoprotein A-II) + GFP



Yang G, Si-Tayeb K, Corbiveau S, Vernet R, Gayon R, Dianat N, Martinet C, Clay D, Goulinet-Mainot S, Tachdjian G, Tachdjian G, Burks D, Vallier L, Bouillé P, Dubart-Kupperschmitt A, Weber A. Integration-deficient lentivectors: an effective strategy to purify and differentiate human embryonic stem cell-derived hepatic progenitors. BMC Biol. 2013 Jul 19;11:86.

► *In vivo* application with the liver specific promoter APOA2

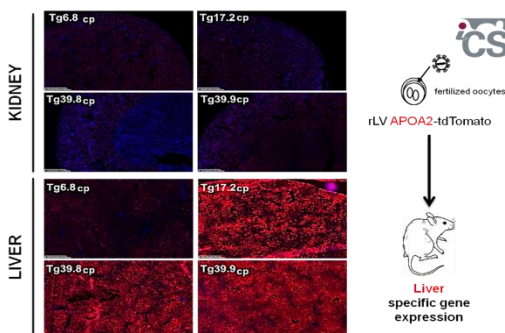


Figure 2: *in vivo* screening by lentigenesis using the specific promoter ApoA2 (apolipoprotein A-II) + GFP

► *In vitro* application with INS, a pancreas specific promoter

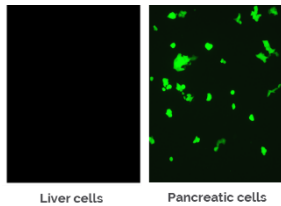


Figure 3: Transduction of liver and pancreatic cells using specific promoter INS (Insuline) + GFP



Yang G, Si-Tayeb K, Corbineaue S, Vernet R, Gayon R, Dianat N, Martinet C, Clay D, Goulinet-Mainot S, Tachdjian G, Tachdjian G, Burks D, Vallier L, Bouillé P, Dubart-Kupperschmitt A, Weber A. Integration-deficient lentivectors: an effective strategy to purify and differentiate human embryonic stem cell-derived hepatic progenitors. BMC Biol. 2013 Jul 19;11:86

► *In vitro* application with cardiac specific promoter MYL2

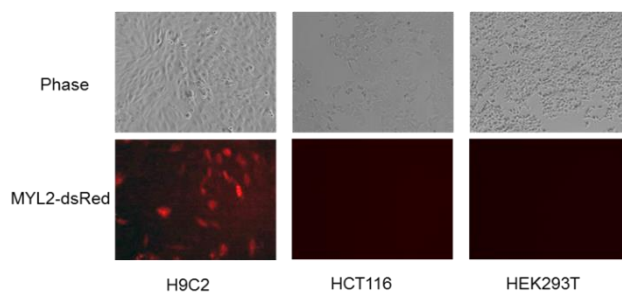


Figure 4: Transduction of cardiac cells (H9C2) using specific promoter MYL2 + dsRed



Chakraborty S, Christoforou N, Fattahi A, Herzog RW, Leong KW. A robust strategy for negative selection of Cre-loxP recombination-based excision of transgenes in induced pluripotent stem cells. PLoS One. 2013 May 22;8(5)

► *In vitro* application with two CNS specific promoters: GFAP (astrocytes specific) and Syn (neurons specific)

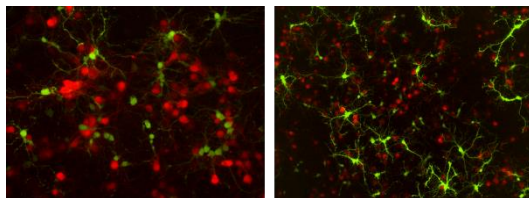


Figure 5: Transduction of CNS cells using promoters specific to astrocytes (GFAP + GFP) and neurons (Syn + DsRed)

► *In vivo* application with two CNS specific promoters: GFAP (astrocytes specific) and Syn (neurons specific)

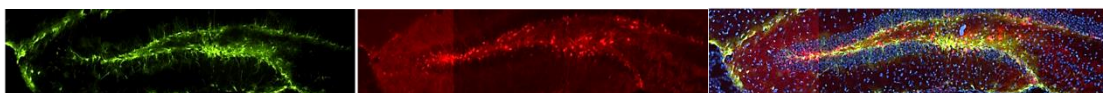


Figure 6: Direct co-injection of 2 lentiviral vectors into dentate gyrus with 2 fluorescent reporters driven by 2 specific promoters (hSynapsin and GFAP)

- ▶ Application with skin cells specific promoter K14

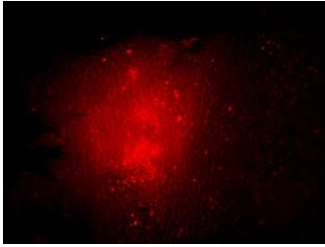


Figure 7: Transduction of skin cells *in vivo* using promoter K14 + RFP

- ▶ Each specific promoter is also available for custom lentiviral vectors carrying your gene of interest.
- ▶ For an overview of cell and tissue specific promoters available, please [click here](#).
- ▶ To request a quote contact us at tech@flashtherapeutics.com.