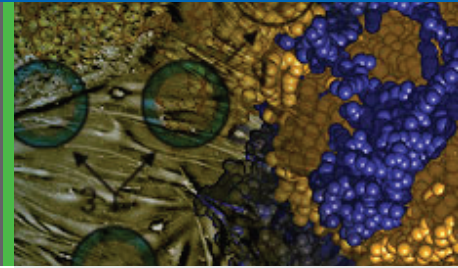


Reporters for Stem Cell Research

Monitor Pluripotency and Track Differentiation

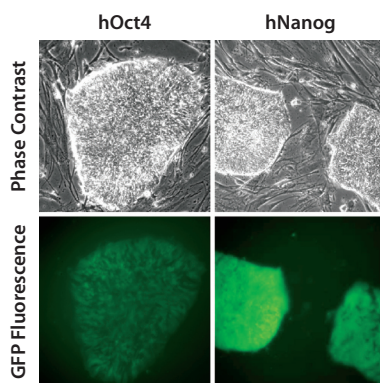


SBI's Lenti-Reporters are effective, biosafe and powerful tools to assess pathway activity, monitor pluripotency and track differentiation in stem cells. Reporters are available as lentivector plasmids or as pre-packaged lentiviral preparations (using the HIV lentiviral backbone and pseudotyped with the VSV-G protein)—ready for transduction of target cells.

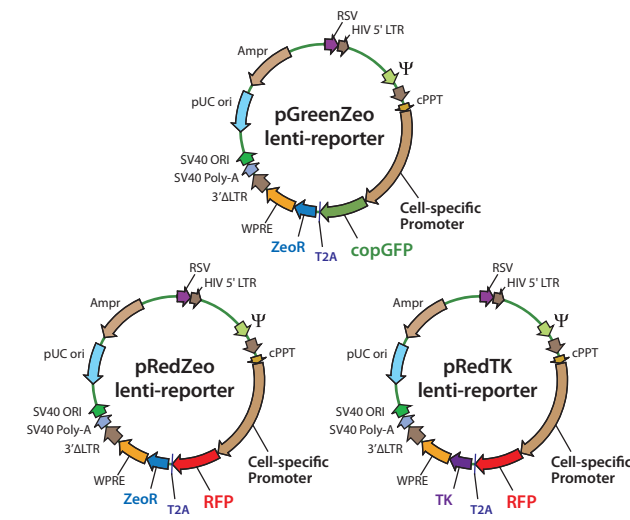
Stem Cell Pluripotency

Enrich for pluripotent cell populations and identify successfully reprogrammed cells through the use of SBI's Reporters. Choose from lentivector-based promoter reporters with dual markers in pGreenZeo, pRedZeo and pRedTK formats.

Oct4 and Nanog—Human or Mouse



Data courtesy of Dr. Timothy Kamp and Chad H. Koonce, UW-Madison Medical School & WiCell Research Institute

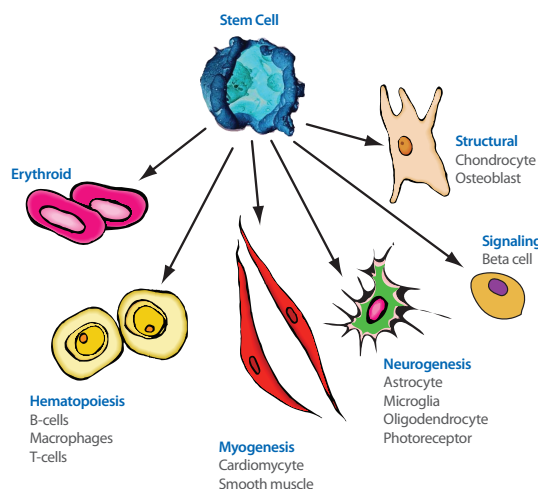


Highlights

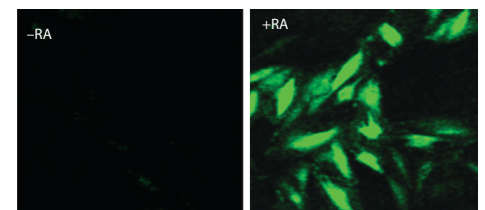
- Rapidly create transgenic cell lines and ES reporter cells
- Select from pre-packaged virus or plasmid
- Ready-to-use positive and negative transduction controls
- Cell specific promoters drive GFP and Zeocin selection in differentiated cells
- Monitor differentiation in real time
- Human and mouse Oct4 and Nanog dual constructs to confirm pluripotency
- Utilize SBI's Custom Services to construct reporters of interest

Stem Cell Differentiation Reporters

Cell and stage-specific promoters drive GFP and Zeocin selection in differentiated cells—**trace differentiation in real-time**. Select from 5 different lineages including Neurogenic, Hematopoietic, Myogenic, Structural and Signaling. These lentiviral reporters can be used to develop new directed differentiation protocols and to study cell fate specification.

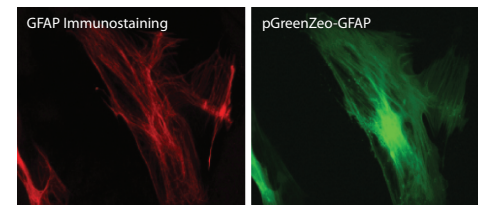


Mouse Troponin Reporter—Differentiation with Retinoic Acid



h9c2 Rat Cardiac Myoblasts

Human GFAP Reporter—Visualization of Astrocytes



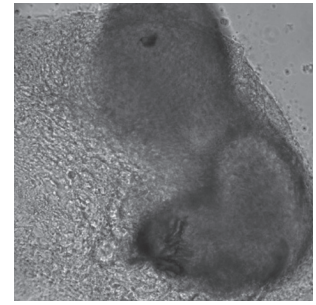
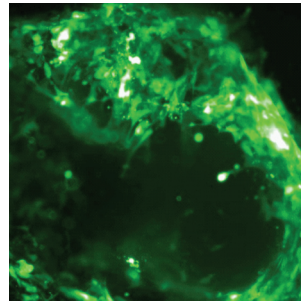
Data courtesy of TJ Bartosh and R.Roque—Touro University Nevada

Reporters for Stem Cell Research

Pluripotency Monitors

Embryonic

Target Cell Type	Species	Promoter Enhancer
ES Cell	Human	Oct4
ES Cell	Mouse	Oct4
ES Cell	Human	Nanog
ES Cell	Mouse	Nanog



Differentiation Reporters

Neural

Target Cell Type	Species	Promoter Enhancer
Macrophage, microglia	Mouse	Cd68
Astrocyte	Human	GFAP
Astrocyte	Mouse	Gfap
Microglia	Human	CD11b
Microglia	Mouse	EMR1
Microglia	Mouse	Iba-1
Muller glia	Mouse	Cd44
Neuron	Human	BM88
Neuron	Mouse	Camk2a
Neuron	Mouse	GAD67
Neuron	Rat	NSE
Neuron	Mouse	Ta1 α -tubulin
Oligodendrocyte	Mouse	MBP
Photoreceptor	Human	Opsin
Neural Stem Cell	Rat	Nestin
Neural Stem Cell	Human	Nestin
Neuron	Human	Doublecortin
Neuron	Human	MAP2
Neuron	Human	FABP7

Endocrine

Target Cell Type	Species	Promoter Enhancer
Beta cell	Human	Insulin
Islet	Human	PDX1
Islet	Mouse	Pdx1

Hematopoietic

Target Cell Type	Species	Promoter Enhancer
B-cell	Human	B29
B-cell	Mouse	B29
CD8 T-cell	Mouse	CD8
Erythroid	Human	HLA-DR α
Macrophage, microglia	Mouse	Cd68
PanT-cell	Human	CD2
Lymphocyte	Human	LCK

Myogenic

Target Cell Type	Species	Promoter Enhancer
Cardiomyocyte	Mouse	Actc
Cardiomyocyte	Human	MLC-2v
Cardiomyocyte	Human	TNNT2
Cardiomyocyte	Mouse	Tnnt2
Smooth muscle myocyte	Mouse	SM22 α
Cardiomyocyte	Human	ACTC
Skeletal myocyte	Mouse	Myogenin

Structural

Target Cell Type	Species	Promoter Enhancer
Chondrocyte	Mouse	Col2a1
Osteoblast	Human	SPP1
Osteoblast	Human	Osteocalcin
Adipocyte	Mouse	ALBP
Epithelium	Human	Keratin 14

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