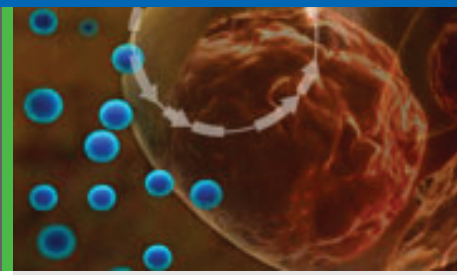
System Biosciences
Accelerating Discoveries in Functional Genomics

Lentiviral Technology

pGreenFire™ Transcription Reporters

Lentiviral Transcriptional Reporter Systems

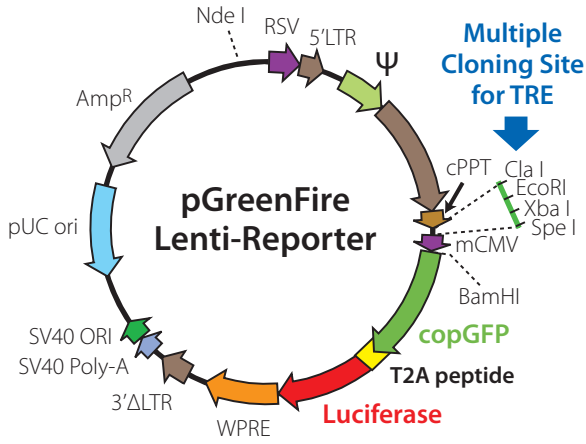


Monitor Pathway Activation with Transcriptional Reporters

SBI's lentiviral-based reporter system is a novel approach to study transcriptional regulation and offers many advantages over current transcription reporter systems. pGreenFire1 (pGF1) is a versatile HIV-based transcription reporter that co-expresses destabilized copGFP and Firefly Luciferase enabling the simultaneous detection of GFP and Luciferase signals for quantitative transcription activation response.

The activation of a signal transduction pathway (e.g. by growth factors, drugs, etc.) can be monitored by the expression level of the reporter gene controlled by a promoter containing the corresponding signal response elements. Copy number of reporter constructs can be controlled by varying the multiplicity of infection (MOI).

Commonly used plasmid-based transcriptional reporter vectors often skew transcriptional network reporting due to their episomal nature. SBI's lentivector-based transcription reporters integrate into the host's genome and enable proper chromatinization to produce more faithful transcriptional activity reporting.



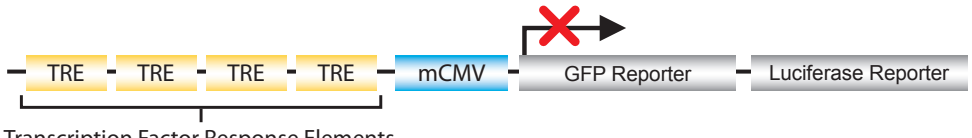
pGreenFire1 (pGF1) is a versatile HIV-based lentivector that co-expresses destabilized copGFP and Firefly Luciferase enabling the detection of both GFP signals as well as Luciferase for quantitative transcription activation reporter assays.

Highlights

- Dual reporter vector system to quantitate Firefly Luciferase and GFP for live cell imaging
- Ready-to-use pre-packaged constructs with a wide range of Transcriptional Response Elements (TREs)
- Study transactivation and epigenetic effects more accurately
- Low background with robust cell transcription activation signals
- Establish stable reporter cell lines

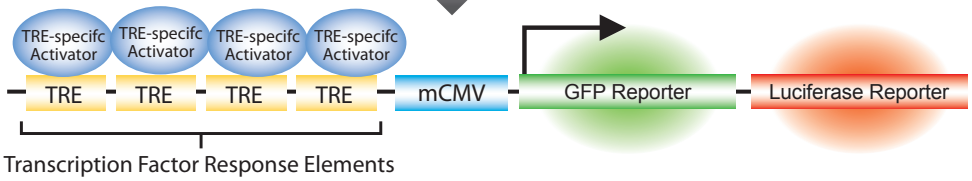
Accurately monitor and quantitate transcription network activity

Minimal CMV promoter is inactive without activation



Binding of Specific Transcription Factors to TRE sequences

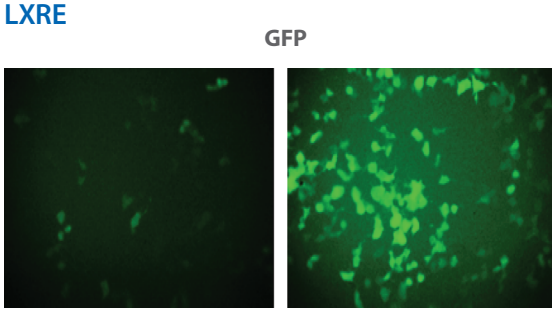
Promoter is active when the specific Transcription Factor is bound to the TRE sequences

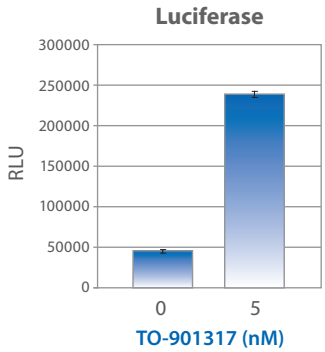


www.systembio.com/greenfire

pGreenFire™ Transcription Reporters

LXRE

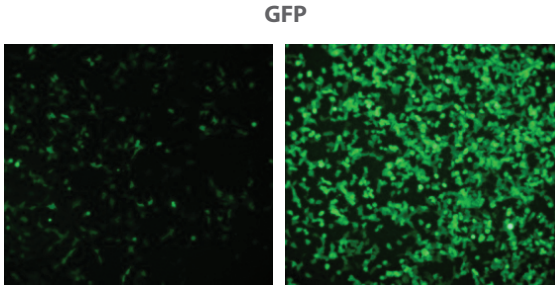


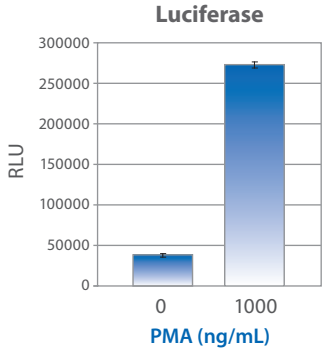


Study Lipid Reponse Pathways

pGreenFire-LXRE construct contains the Liver X receptor transcription factor response elements that can be bound by the LXR family of transciption factors. The pGreenFire-LXRE reporter has a strong response to the LXR agonist TO-901317 compound.

AP1

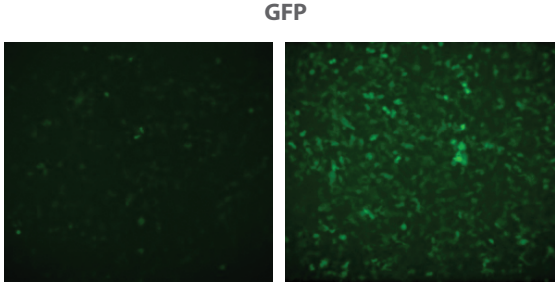


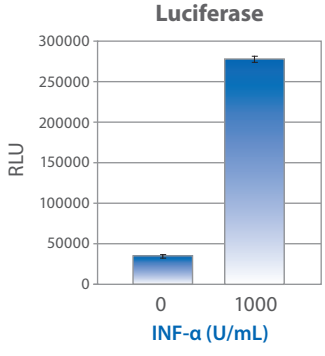


Study Oncogenic Pathways

pGreenFire-AP1 construct responds to the Activator Protein-1 (AP1) transcription factor hetero- or homo-dimeric complexes that comprises members of the proto-oncogene Jun protein family (c-Jun, JunB and JunD) and Fos protein family (c-Fos, Fos B, Fra-1 and Fra-2). SBI's pGreenFire-AP1 Reporter provides accurate response to this pathway and can be induced by the agonist Phorbol-Myristate-Acetate (PMA).

ISRE





Study Inflammation Pathways

pGreenFire-ISRE construct contains the Interferon-Stimulated Response Element that responds to Type I interferons (IFN-α and -ß) that mediate signaling through STAT1 and STAT2 components of the JAK/STAT-signal transduction pathways. Robust transactivation response is observed using Interferon-α as the agonist.

Pre-made pGreenFire Transcription Response Element Constructs						
None	AP1	LXRE	HIF1	MEF2	NFAT	SMAD
CMV	STAT1	Nanog	GAS	Pax6	CREB	Oct 4
NF-κB	ISRE	Notch	SREBP	PPARg	SP1	C/EBPa
TCF/LEF1	GAL4	p53	SRF	cJun	RARE	

Available as ready-to-transduce virus or plasmid DNA

We Also Offer Custom Services

System Biosciences offers a wide-range of custom services to support your research, allowing you to spend less time making tools, and more time making discoveries. To learn more, visit our website at www.systembio.com/service or call us at 888-266-5066.

SBI System Biosciences

System Biosciences, Inc.
1616 North Shoreline Blvd.
Mountain View, CA 94043

Toll Free: 888.266.5066
Fax: 650-968-2277
Email: info@systembio.com
www.systembio.com