GLuc-ON™ Promoter Reporter Clones

Overview

Using a secreted and robust Gaussia Luciferase (GLuc) as the reporter, GeneCopoeia GLuc-ON™ promoter clones are designed to detect the real-time activities of over 20,000 human promoters using live cell assays.

Each transfection-ready promoter clone contains 1.0-1.3 kb insert, corresponding to the 5'-flanking sequence located approximately 1.3 kb upstream and up to 200bp downstream of the transcription initiation site of a specific human gene. This insert is placed upstream of the GLuc reporter gene. Since the putative cis-acting enhancer elements are expected to exist in the cloned promoter region, the luciferase activity observed during the reporter assay closely resembles the actual promoter regulation of these genes within human cells.

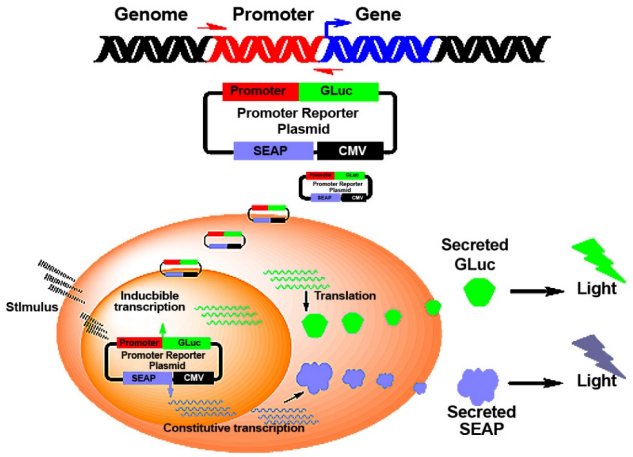

Figure 1. How GLuc-ON promoter clones work

Vector	Reporter gene	Tracking gene	Vector type
pEZX-PG04	*Gaussia* luciferase(Gluc)	Secreted alkaline phosphatase (SEAP)	Non-viral
pEZX-PG02	*Gaussia* luciferase(Gluc)	N/A*	Non-viral
pEZX-PF02	eGFP	N/A*	Non-viral
pEZX-PM02	mCherry	N/A*	Non-viral
pEZX-LvPG04	*Gaussia* luciferase(Gluc)	Secreted alkaline phosphatase (SEAP)	Lentiviral
pEZX-LvPG02	*Gaussia* luciferase(Gluc)	N/A*	Lentiviral
pEZX-LvPF02	eGFP	N/A*	Lentiviral
pEZX-LvPM02	mCherry	N/A*	Lentiviral

*A separate vector is available for SEAP expression.

Advantages

Live cell assays

- Naturally secreted Gluc reporter
- No lysis of the cells is necessary
- Save samples, reduce variations, and simplify experiments for applications such as pulse-chase analysis, etc.

Real-time study

- Data is generated quickly
- Closely resembles real-time activities

Dual secreted reporter system

- Secreted GLuc and SEAP
- Enables transfection-normalization for true cross-sample comparison

High-throughput compatible

- Group or pathway study compatible
- High sample number compatible

High sensitivity

- Gluc is 1000-fold more sensitive than firefly or *Renilla* luciferase

Convenience

- All promoter clones are transfection-ready

GeneCopoeia™
Expressway to Discovery

GLuc-ON™ Promoter Reporter Clones

Gaussia luciferase

GLuc-ON promoter clones use a modified GLuc (mGLuc) as the reporter gene, which generates a highly stable signal and overcomes the quick signal decay commonly observed with humanized wild type GLuc (wtGLuc).

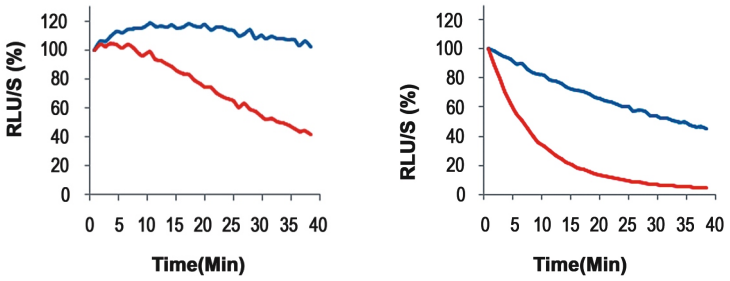

Figure 2. Signal stability of mGLuc (blue) and wtGLuc (red). Left: assay buffer with a stabilizer; Right: regular assay buffer

Dual-reporter system

Dual-reporter vectors are available for the GLuc-ON promoter clones. The secondary reporter, secreted Alkaline Phosphatase (SEAP), serves as an internal control and enables transfection normalization for accurate cross-sample comparison.

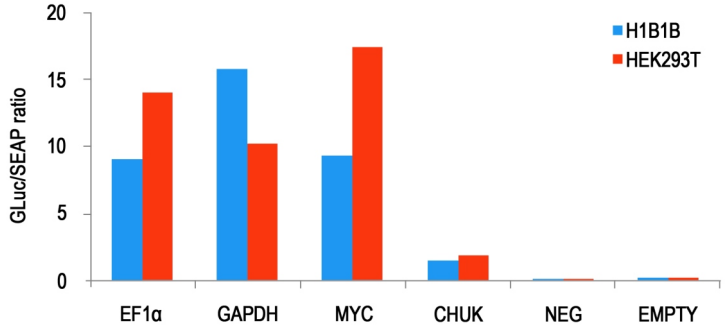

Figure 3. Normalized promoter activities in H1B1B and HEK293T cells. Dual-reporter promoter clones or controls were transfected into two cell lines in duplicates. Samples were analyzed 24 hrs (HEK293T) and 48 hrs (H1B1B) after transfection. NEG (containing non-promoter sequence) and EMPTY (no promoter in the vector) are negative controls.

To order

To search and order promoter clones, please visit www.genecopoeia.com

Related Products

- GLuc-ON™ SEAP Expression Clone
- GLuc-ON™ Promoter Clone Positive and Negative Control Vectors
- Secrete-Pair™ Dual Luminescence Assay Kit
- EndoFectin™ Transfection Reagents

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