GLuc-ON™ Promoter Reporter Clones

Overview

Using a secreted and robust Gaussia Luciferase (GLuc) as the reported, 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 1.0-1.3kb insert, corresponding to the 5'-flanking sequence located approximately 1.3kb 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 these genes within human cells.

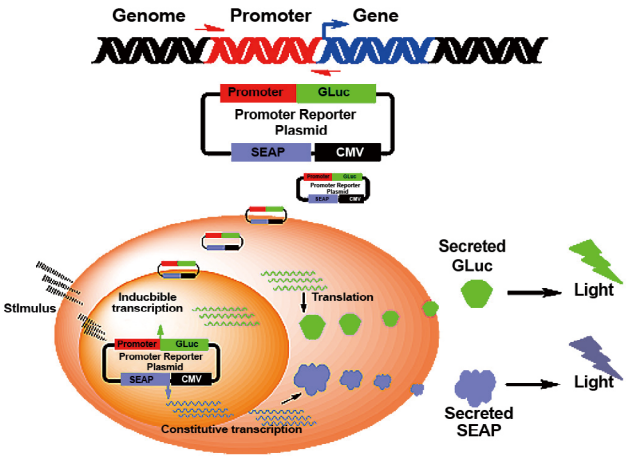

Figure 1. How GLuc-ON promoter clones work

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 variation, and simlify experiments for applications such as pulse-chase analysis, etc.

Real-time study

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

Dual secreted reporter system

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

High-throughput compatibility

- 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

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).

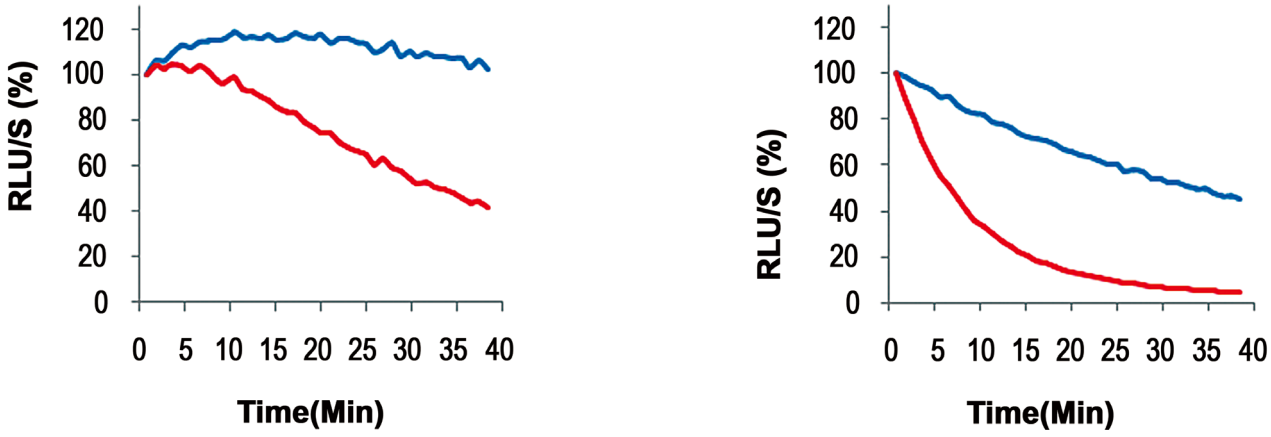

Figure 2. Signal stability of m Gluc(blue) and wtgluc (red Left: assay buffer with a stabilizer; Right: regular assay buffer

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.

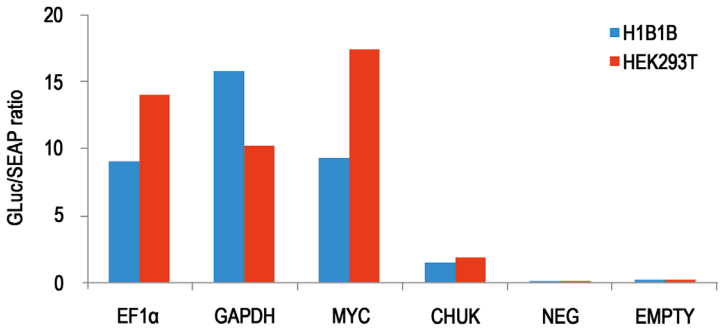

Figure 3. Normalized promoter activities in H1B1B and HEK293T cells. Dual-reporter promoter clones or controls were transfected into two cell lines in duplicates. Samples were analyzed 24 hrs (HEK293T) and 48 hrs (H1B1B) after transfection. NEG (containing non-promoter sequence) and EMPTY (no promoter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