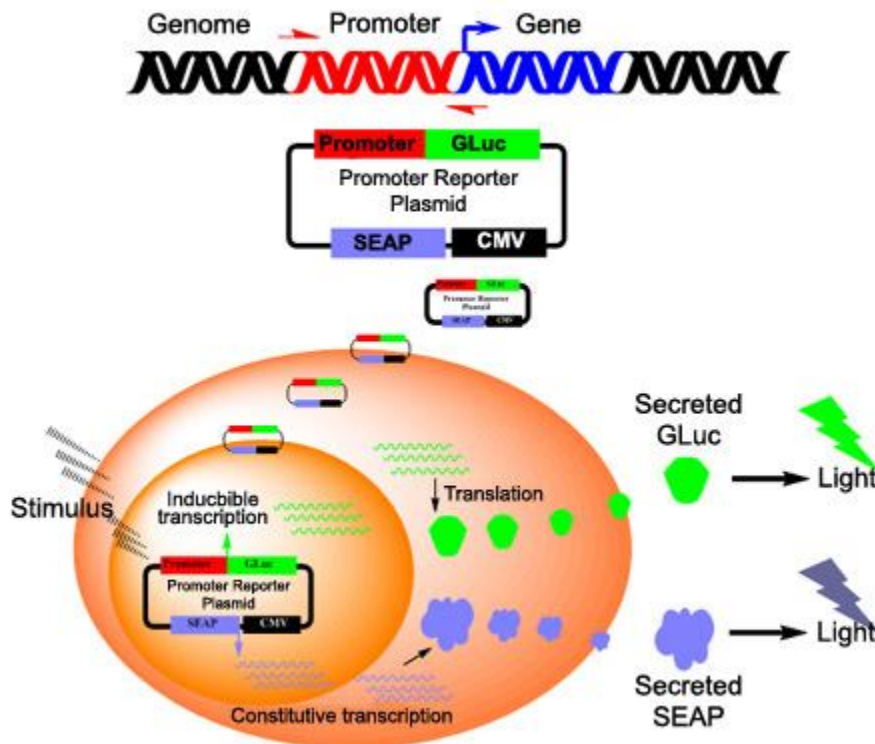


## GLuc-ON™ Promoter Reporter Clones

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 a 1.2-1.5 kb insert, corresponding to the 5'-flanking sequence located approximately 1.5 kb upstream and up to 200 bp downstream of the transcription start site (TSS) 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.

GLuc-ON promoter clones can be ordered as [pre-designed](#) or [custom-built](#) in one of our robust vector systems. Currently we offer both single-reporter and dual-reporter vector systems. The single-reporter system uses either GLuc or GFP as the promoter reporter. The dual-reporter system uses GLuc as the promoter reporter and SEAP (secreted Alkaline Phosphatase) as the internal control for signal normalization.



**Figure 1.** How GLuc-ON promoter clones work.

## 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 accurate across-sample comparison

### High-throughput compatible

- Group or pathway study compatible
- High sample number compatible

### High sensitivity

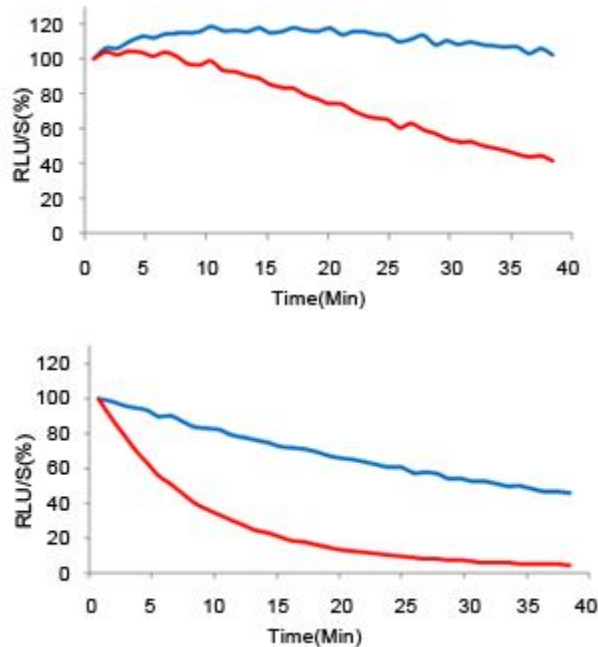
- GLuc is 1000-fold more sensitive than firefly or Renilla luciferase

### Convenience

- All promoter clones are transfection-ready

## Gaussia luciferase

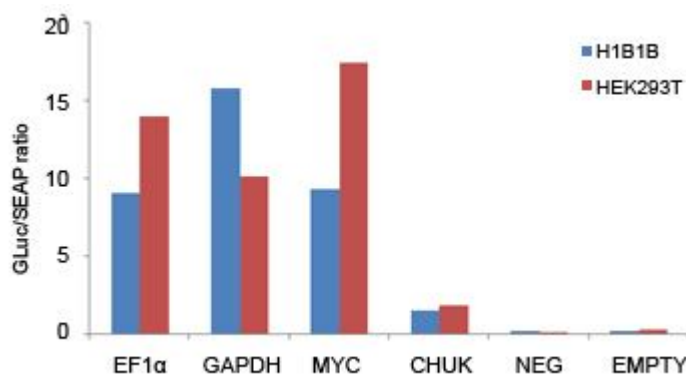
GLuc-ON promoter clones use a modified GLuc (mGLuc) as the reporter gene, which generates a highly stable signal and overcomes the quick signal decay commonly observed with humanized wild type GLuc (wtGLuc).



**Figure 2.** Signal stability of mGLuc (blue) and wtGLuc (red). Left: assay buffer with a stabilizer; Right: regular assay buffer (Secrete-Pair™ dual luminescence assay kit)

## 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. The dual-reporter system 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.

## Vector choices



Vector	Reporter gene	Tracking gene	Selection marker
pEZX-PG01	<i>Gaussia</i> luciferase (GLuc)	N/A*	N/A
pEZX-PG02	<i>Gaussia</i> luciferase (GLuc)	N/A*	Puromycin
pEZX-PG03	<i>Gaussia</i> luciferase (GLuc)	Secreted alkaline phosphatase (SEAP)	N/A
pEZX-PG04	<i>Gaussia</i> luciferase (GLuc)	Secreted alkaline phosphatase (SEAP)	Puromycin
pEZX-PF01	<i>eGFP</i>	N/A*	N/A
pEZX-PF02	<i>eGFP</i>	N/A*	Puromycin

\* A separate vector is available for SEAP expression.



## Custom promoter clone services

### Control clones and SEAP expression clone

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Catalog#	Product	Description	Vector
SEAP-PA01	Secreted alkaline phosphatase (SEAP) Expression clone	Express SEAP. Can be used for co-transfection with promoter clone	pEZX-PA01
EF1A-PG04	EF1 $\alpha$ positive control clone	House keeping gene promoter positive control in dual-reporter vector	pEZX-PG04
GAPDH-PG04	GAPDH positive control clone	House keeping gene promoter positive control in dual-reporter vector	pEZX-PG04
NEG-PG04	Negative control clone	Non-promoter sequence negative control in dual-reporter vector	pEZX-PG04
EF1A-PG02	EF1 $\alpha$ positive control clone	House keeping gene promoter positive control in single-reporter vector	pEZX-PG02
GAPDH-PG02	GAPDH positive control clone	House keeping gene promoter positive control in single-reporter vector	pEZX-PG02
NEG-PG02	Negative control clone	Non-promoter sequence negative control in single-reporter vector	pEZX-PG02
EF1A-PF02	EF1 $\alpha$ positive control clone	House keeping gene promoter positive control in single GFP reporter vector	pEZX-PF02
GAPDH-PF02	GAPDH positive control clone	House keeping gene promoter positive control in single GFP reporter vector	pEZX-PF02
NEG-PF02	Negative control clone	Non-promoter sequence negative control in single GFP reporter vector	pEZX-PF02

## **Related products**

- Secrete-Pair™ Dual Luminescence Assay Kit
- TF-Detect™ Human P53 Activity Assay Kit
- TF-Detect™ AP-1/c-Jun Activity Assay Kit
- EndoFectin™ Transfection Reagents