

Gal-Screen® Assay System

Homogeneous Chemiluminescent Reporter Gene Assay for β -Galactosidase in Mammalian or Yeast Cells

Tropix® Gal-Screen® assay system combines direct cell lysis with rapid ultra-sensitive chemiluminescent detection of β -galactosidase reporter enzyme. This homogeneous assay is ideally suited for screening applications where assay automation is required. The Gal-Screen system uses Galacton-Star® chemiluminescent enzyme substrate for convenient measurement in a luminometer. A single reagent, providing cell lysis and chemiluminescent substrate, is added to cells in the presence of culture medium. Light emission reaches maximum in 60-90 minutes and remains constant for 45-90 minutes.

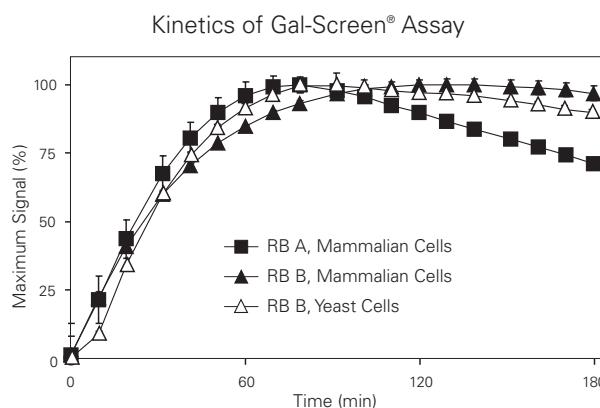
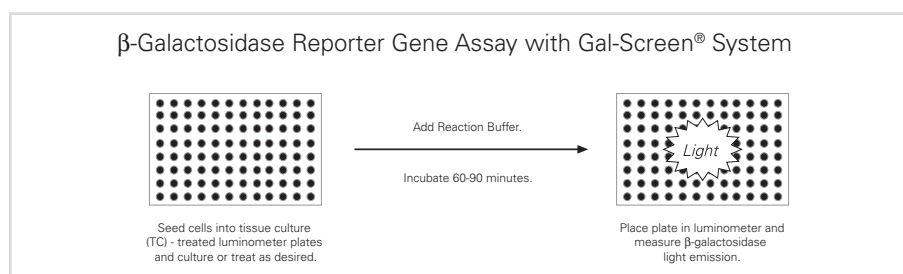


Figure 1. Gal-Screen® assays were performed with mammalian ψ 2-BAG α cells (stably-transfected NIH/3T3 cells constitutively expressing β -galactosidase; 10,000 cells/well) or transformed yeast cells (Gal4 WT; 23,000 cells/well). ψ 2-BAG α cells were assayed with Reaction Buffers A and B and yeast cells with Reaction Buffer B. Plates were incubated at 27°C during repeated measurement in the TR717™ microplate luminometer. Data is presented as the percentage of the maximum signal.



Rapid and Simple Format

The Gal-Screen® system utilizes a simple protocol that can be used with either mammalian or yeast cells. A single assay reagent, which provides cell lysis and contains all reaction components, is prepared by adding Galacton-Star® substrate to Reaction Buffer A or B. The assay reagent is added to an equal volume of cells in culture medium in 96-, 384- or 1536-well microplate formats. After an incubation period, light emission is measured in a luminometer.

Reaction Buffer A is designed for use with mammalian cells, and Reaction Buffer B is designed for use with yeast or mammalian cells. The buffers have slightly different formulations, resulting in different light emission kinetics. Reaction Buffer A provides a faster time to peak light emission with a shorter duration of peak signal. Reaction Buffer B requires a longer time to peak light emission and provides a longer duration of peak signal.

High Sensitivity

The Gal-Screen® assay system provides greater sensitivity than colorimetric or fluorescence-based assays. With a lower limit of detection of 1 picogram (in the presence of culture medium), this chemiluminescent assay provides excellent sensitivity compared to other reporter systems.

Wide Dynamic Range

Colorimetric reporter gene assays cannot rival the dynamic range of Galacton-Star® substrate in the Gal-Screen® system. The wide dynamic range spans 5 orders of magnitude, enabling detection of a wide range of reporter enzyme concentrations in cells.

The system is available in three sizes:

Gal-Screen® System Standard Size

T1029 – Reaction Buffer A

T1032 – Reaction Buffer B

- 0.8 mL Galacton-Star® Substrate

- 19.2 mL Reaction Buffer A (for mammalian cells) or 19.2 mL Reaction Buffer B (for yeast or mammalian cells)

Gal-Screen® System Large Size

T1027 – Reaction Buffer A

T1030 – Reaction Buffer B

- 4 mL Galacton-Star® Substrate

- 96 mL Reaction Buffer A (for mammalian cells) or 96 mL Reaction Buffer B (for yeast or mammalian cells)

Gal-Screen® System Screening Size

T1028 – Reaction Buffer A

T1031 – Reaction Buffer B

- 42 mL Galacton-Star® Substrate

- 1 L Reaction Buffer A (for mammalian cells) or 1 L Reaction Buffer B (for yeast or mammalian cells)

Description	Size	P/N	Cost
Gal-Screen® System for Mammalian Cells	200 assays	T1029	\$150
Gal-Screen® System for Mammalian Cells	1,000 assays	T1027	\$475
Gal-Screen® System for Mammalian Cells	10,000 assays	T1028	\$3000
Gal-Screen® System for Yeast or Mammalian Cells	200 assays	T1032	\$150
Gal-Screen® System for Yeast or Mammalian Cells	1,000 assays	T1030	\$475
Gal-Screen® System for Yeast or Mammalian Cells	10,000 assays	T1031	\$3000

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