

QUANTI-Luc™ Gold

A coelenterazine-based luminescence detection kit for standard and HTS assays

Catalog code: rep-qlcg1, rep-qlcg2, rep-qlcg5

<https://www.invivogen.com/ quanti-luc-gold>

For research use only

Version 19F11-MM

PRODUCT INFORMATION

Contents

QUANTI-Luc™ Gold is a two-component reporter kit which contains:

- QUANTI-Luc™ Plus, provided in individually sealed pouches
- QLC Stabilizer, provided in a tube

QUANTI-Luc™ Gold is supplied in different formats:

- rep-qlcg1: 1 pouch of QUANTI-Luc™ Plus and 1 tube of QLC Stabilizer
- rep-qlcg2: 2 pouches of QUANTI-Luc™ Plus and 2 tubes of QLC Stabilizer
- rep-qlcg5: 5 pouches of QUANTI-Luc™ Plus and 5 tubes of QLC Stabilizer

Each pouch provides sufficient reagent for 5 x 96-well plates (25 ml for standard procedure) or 2 x 1536-well plates (8 ml for high throughput screening (HTS) procedure). Each tube of QLC Stabilizer provides 100 µl for the standard procedure (optional) or 300 µl for the HTS procedure (required).

Required Material (not provided)

- Sterile water
- Sterile screw cap tube

Storage and Stability

- Store QUANTI-Luc™ Plus pouches at -20°C for 12 months.
- Store QLC Stabilizer at room temperature (15-25°C) for 12 months.
- Reconstituted QUANTI-Luc™ Gold is stable for 1 week at 4°C and for 1 month at -20°C. Prepare aliquots to avoid repeated freeze-thaw cycles.

Note: This product is photosensitive and should be protected from light.

Quality Control

Each lot is thoroughly tested to ensure the absence of lot-to-lot variation.

- Physicochemical characterization (including pH, solubility).
- Functional assays using recombinant Lucia protein or reporter cells.

DESCRIPTION

QUANTI-Luc™ Gold is an optimized kit for the detection of Lucia luciferase and other coelenterazine-utilizing luciferases (e.g. Gaussia and Renilla luciferases). This two-component kit comprises QUANTI-Luc™ Plus (coelenterazine-containing reagent) and QLC Stabilizer. The light signal produced is quantified using a luminometer and expressed as relative light units (RLUs).

This kit provides the user with two options for luciferase activity measurement (see Figure 1):

(a) QUANTI-Luc™ Plus without QLC Stabilizer allows enhanced light output detection (as compared to our standard QUANTI-Luc™).

(b) QUANTI-Luc™ Plus with QLC stabilizer (QUANTI-Luc™ Gold) allows enhanced light signal stability (over 10 minutes). This option is ideal for HTS, time-course studies, or when using a luminometer without injectors.

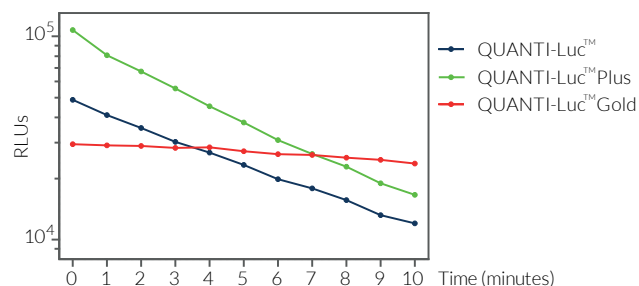


Figure 1: Lucia luciferase activity detection with QUANTI-Luc™-based detection media. THP1-Dual™ cells were stimulated for 24h with 10 µg/ml 2'3'-cGAMP. The ISG response was assessed by determining Lucia luciferase activity in the supernatant using QUANTI-Luc™, QUANTI-Luc™ Plus, or QUANTI-Luc™ Gold (QUANTI-Luc™ Plus with QLC Stabilizer). Relative light units (RLUs) were measured over 10 minutes.

METHODS

QUANTI-Luc™ Gold has been optimized for use in 96-well plates (standard procedure) and in 1536-well plates (HTS procedure) as described below and on the next page.

A. Standard procedure

Two options are available (see Figure 2):

- Option 1: for enhanced light signal stability, use QUANTI-Luc™ Gold (QUANTI-Luc™ Plus with QLC Stabilizer).
- Option 2: for enhanced light output detection, use QUANTI-Luc™ Plus alone.

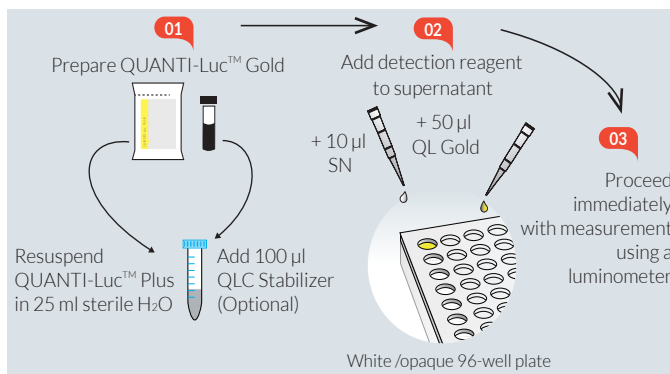


Figure 2: Standard procedure using QUANTI-Luc™ Gold.

TECHNICAL SUPPORT

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Standard Procedure Option 1

1. Transfer the QUANTI-Luc™ Plus pouch contents into a 50 ml screw cap tube.
2. Add 25 ml of sterile water. Swirl **gently** until powder is completely dissolved.
3. Add 100 µl of QLC Stabilizer.

Note: For optimal results it is important to add the correct volume, as too much QLC Stabilizer can result in decreased signal intensity.

4. Vortex **very briefly** (for a few seconds). Incubate at room temperature for at least 15 minutes.
5. Use QUANTI-Luc™ Gold immediately or store at 4°C or -20°C until needed.

Note: This product is photosensitive and should be protected from light.

6. Proceed to measurement using one of the following protocols:

To obtain **end-point readings** using a luminometer **with an injector**.

1. Set the luminometer with the following parameters: 50 µl of injection, end-point measurement with a 4 second start time and 0.1 second reading time.
2. Add 10-20 µl of sample per well into a 96-well white (opaque) or black plate, or a luminometer tube.
3. Prime the injector with the QUANTI-Luc™ Gold assay solution and proceed **immediately** with the measurement.

To obtain **end-point readings** using a luminometer **without injectors**:

1. Set the luminometer with the following parameters: end-point measurement with a 4 second start time and 0.1 second reading time.
2. Add 10-20 µl of sample per well into a 96-well white (opaque) or black plate, or a luminometer tube.
3. Add 50 µl of QUANTI-Luc™ Gold assay solution to each well or tube.
4. Gently tap the plate several times to mix (do **not** vortex).
5. Proceed **immediately** with the measurement.

Standard Procedure Option 2

1. Transfer the QUANTI-Luc™ Plus pouch contents into a 50 ml screw cap tube.
2. Add 25 ml of sterile water. Swirl gently until powder is completely dissolved.
3. Use QUANTI-Luc™ Plus immediately or store at 4°C or -20°C until needed.

Note: This product is photosensitive and should be protected from light.

4. Proceed to measurement using one of the following protocols:

To obtain **end-point readings** using a luminometer **with an injector**.

1. Set the luminometer with the following parameters: 50 µl of injection, end-point measurement with a 4 second start time and 0.1 second reading time.
2. Add 10-20 µl of sample per well into a 96-well white (opaque) or black plate, or a luminometer tube.
3. Prime the injector with the QUANTI-Luc™ Plus assay solution and proceed **immediately** with the measurement.

To obtain **end-point readings** using a luminometer **without injectors**.

1. Set the luminometer with the following parameters: end-point measurement with a 4 second start time and 0.1 second reading time.
2. Add 10-20 µl of sample per well into a 96-well white (opaque) or black plate, or a luminometer tube.
3. Add 50 µl of QUANTI-Luc™ Plus assay solution to each well or tube.
4. Gently tap the plate several times to mix (do **not** vortex).
5. Proceed **immediately** with the measurement.

B. High Throughput Screening (HTS) procedure

The reading of a high throughput screening plate requires enhanced light signal stability. Therefore, we recommend to use QUANTI-Luc™ Gold (QUANTI-Luc™ Plus with QLC Stabilizer) for this assay. This procedure has been optimized for use in HTS screening procedures in 1536-well plates. QUANTI-Luc™ Gold is added directly to the cell suspension to reduce liquid handling (see Figure 3).

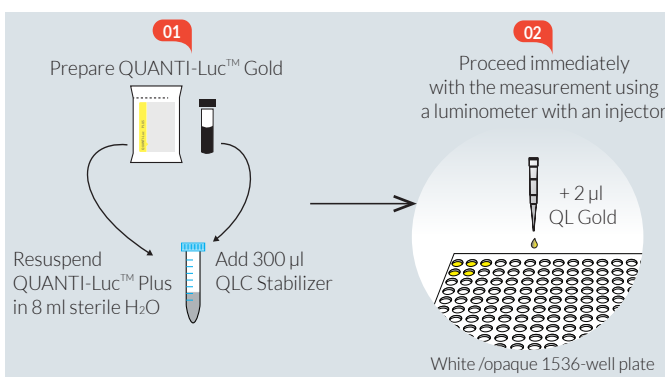


Figure 3: High throughput screening procedure using QUANTI-Luc™ Gold.

1. Dispense cell suspension and test compounds into a 1536-well white or black plate in a volume that does not exceed 5 µl per well. Incubate cells with test compounds for the desired period of time.
2. Transfer QUANTI-Luc™ Plus pouch contents into a 15 ml screw cap tube.
3. Add 8 ml of sterile water. Swirl **gently** until powder is completely dissolved. Due to the small volume, this step may take several minutes.
4. Add 300 µl of QLC Stabilizer.

Note: For optimal results, it is important to add the correct volume as too much QLC Stabilizer can result in decreased signal intensity.

5. Vortex **very briefly** (for a few seconds). Incubate at room temperature for at least 15 minutes.
6. Use QUANTI-Luc™ Gold immediately or store at 4°C or -20°C until needed.

Note: This product is photosensitive and should be protected from light.

7. Dispense 2 µl of QUANTI-Luc™ Gold per wells containing ≤5 µl of cell culture in a 1536-well plate.
8. Record luminescence once the signal is stabilized according to your instrument setting.

RELATED PRODUCTS

| Product | Catalog Code |
|--|--------------|
| QUANTI-Luc™ (secreted luciferase detection medium) | rep-qlc1 |
| Recombinant Lucia luciferase Protein | rec-lucia |
| Reporter Cells | |
| THP1-Dual™ (IRF-Lucia/NF-κB-SEAP) Cells | thpd-nfis |
| THP1-Lucia™ ISG Cells | thp1-isg |
| THP1-Lucia™ NF-κB Cells | thp1-nfkb |

For a complete list of InvivoGen's Lucia luciferase Reporter Cell Lines visit <https://www.invivogen.com/lucia-reporter-cells>

TECHNICAL SUPPORT

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