Stable-Lite Luciferase Assay System

DD1202

Version 20.1

Overview to Product

Stable-LiteLuciferase Assay system is the firefly luciferase reporter gene detection kit with ultrahigh sensitivity, stability and homogeneity. This kit contains high purity Luciferin and optimized reaction reagent, resulting in a more stable response, greater environmental tolerance, and less peculiar smell. The cells are lysed and luciferase is released after directly adding the mixed Stable-Lite detection reagent into the cell culture, the reaction shown in Figure 1 can be generated to emit a stable optical signal.

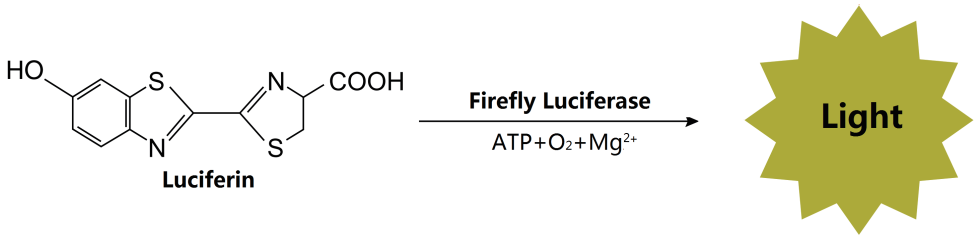

Figure 1. Schematic Diagram of Stable-Lite Detection Principle

As shown in Figure 2, this kit contains two components including solution and substrate, add the mixed Stable-Lite detection reagent into the cell culture with equal volume, and the detection could be performed after 5 min.

This kit can generate high signal intensity with a half-life period of 5h. And it is not affected by enzyme concentration, and is more suitable for high throughput detection of 384-well plate.

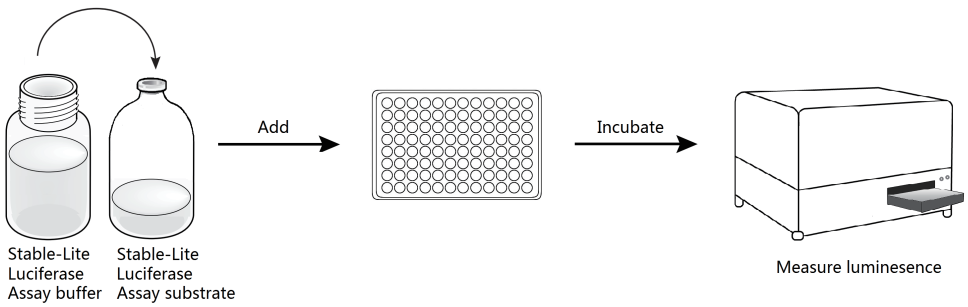

Figure 2. Operation Flow Chart of Stable-Lite

Product components

Components	DD1202-01	DD1202-02	DD1202-03	DD1202-04
Stable-Lite Luciferase Assay Buffer	10 ml	10 × 10 ml	100 ml	10 × 10 ml
Stable-Lite Luciferase Assay Substrate (lyophilized)	1 vial	10 vials	1 vial	10 vials

Storage condition

Long-stem storage: -30 ~ -15℃; Transport conditions: ≤0℃.

Before mixing: Stable-Lite Luciferase Assay Buffer could be preserved at room temperature (<25℃) or 2 to 8℃ for a long time.

Stable-Lite Luciferase Assay Substrate could be conserved for 30 days at 2 to 8℃.

After mixing: Stable-Lite detection reagent can be preserved at room temperature for 1 day (>80% activity) or at 2 ~ 8℃ for 1 day (>90% activity).

After 10 cycles of repeated freezing and melting, it can remain stable. The unused reagents can be preserved at - 20℃ for 14 days (>90% activity). It is recommended to preserve at -70℃ under conditions of long-term non-use.

Experiment preparation

Self-provided material

Single/multi-channel pipette; White/black cell culture plate; Microplate reader with a luminescence detection module.

Operation process

Reagent preparation

1. **Melt:** Place Stable-Lite Luciferase Assay Buffer at 2 to 8℃ or room temperature for melting. The product can also be placed in a 22℃ water bath for melting, **but it shall be noted that the water temperature shall not exceed 25℃.**
2. **Preparation of Stable-Lite detection reagent:** Add whole bottle of melted Stable-Lite Luciferase Assay Buffer into Stable-Lite Luciferase Assay Substrate, gently turn upside down and mix it for 3 to 5 times to dissolve substrate thoroughly.

▲ Before use, ensure that the Stable-Lite TM detection reagent has been balanced to room temperature, if Stable-Lite TM detection reagent is preserved at -20℃ or -70℃, after melting, it shall be gently turned upside down and mixed for 3 - 5 times before using.

Detection steps

1. Take out the cell culture plate to be tested from the incubator and place it at room temperature for 30 min to keep the temperature of the plate balanced to room temperature.
2. Add Stable-Lite detection reagent which is equal to the volume of the cell culture to be tested and balanced to room temperature. For example, when using a 96-well culture plate, add 100 μl Stable-Lite TM detection reagents into 100 μl cell culture to be tested.
3. Place it at room temperature for at least 5 min to make the cells are fully lysed, then the detection can be performed.

Precautions

Temperature: The intensity of luminescence and rate of decay depends on the reaction rate of luciferase. Temperature has a direct effect on the enzyme reaction rate, so the Stable-Lite detection reagent and cell culture shall be balanced to room temperature before adding samples, to ensure the consistency of test results. Pay special attention to batch operations, stacked perforated plate require more time to balance to room temperature than monolayer placed perforated plates, uneven temperature of perforated plate may occur due to inadequate balance to cause a gradient effect between the center and edge of the perforated plate.

Microplate reader: Stable-Lite Luciferase Assay system is compatible with the microplate reader with luminescence detection module. Due to the different settings and sensitivity of different microplate readers, the measured optical signal values may also be different; the detection window may be influenced by it.