

Product datasheet for **PR300006**

Firefly luciferase assay kit, 1000 assays

Product data:

Product Type: Luciferase Assay Kits

Description: Firefly luciferase assay kit, 1000 assays

Components:

- 5X Firefly Luciferase Lysis Buffer (2 X 15 mL)
- Firefly Luciferase Assay Buffer 2.0 (100 mL)
- D-Luciferin (2 X 10mg)

Features:

- Highly sensitive & linear flash-type assay
- Substrate is added fresh every assay, for consistent signal over time
- Excellent performance & great value compared to other suppliers

Assay Type: Luminescence (flash-type), Endpoint assay

Detection Method: Luminometer (single-tube or microplate reader with reagent injectors)

Summary: This firefly luciferase assay kit is designed for simple and efficient quantitation of firefly luciferase reporter enzyme activity from cultured cells with high sensitivity and linearity. The substrates in this kit are provided as separate stock solutions that are freshly diluted for every assay, for excellent shelf life with consistent signal over time. The kits include enough cell lysis buffer to perform the stated number of assays in 96-well plates. Additional 5X Firefly Lysis Buffer (Cat# PR300005) can be purchased separately if needed.

Note: This is a flash-type luminescence assay that requires signal to be measured immediately after adding working solution to samples.

Background: Firefly luciferase is widely used as a reporter for studying gene regulation and function, and for pharmaceutical screening. It is a very sensitive genetic reporter due to the absence of endogenous luciferase activity in mammalian cells or tissues. Firefly luciferase is a 62,000 Dalton protein, which is active as a monomer and does not require subsequent processing for its activity. The enzyme catalyzes ATP-dependent D-luciferin oxidation to oxyluciferin, producing light emission. Firefly luciferase follows Michaelis-Menten kinetics and, as a result, maximum light output is not achieved until the substrate and co-factors are present in large excess. When assayed under these conditions, light emitted from the reaction is directly proportional to the number of luciferase enzyme molecules.

Storage: Store at -80°C.



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Stability:

Firefly Luciferase Assay Buffer 2.0 is stable at -20°C for three months and at -80°C for at least six months from date of receipt. The other kit components are stable at -20°C for at least six months from date of receipt. Kit components and D-luciferin stock solutions in water are stable to at least 5 freeze-thaw cycles.