Luciferase from *Photinus pyralis* (firefly)

Cat. No.	size
E4720-01	0.5 mg
E4720-02	2.5 mg

Unit Definition: One unit will produce one Relative Light Unit (RLU) at 20-25°C over a 10 second period, measured in 100 µl assay mixture containing 40 pmol ATP and 15 nmol luciferin in Tris-glycine buffer pH 7.6, using a luminometer.

Storage Conditions: Store at -20°C.

Quality Control:

All preparations are assayed for contaminating endonucleases, exonucleases, nonspecific RNases, single- and double-stranded DNase activities. Typical preparations are greater than 90% pure, as determined by SDS-PAGE.

References:

1. *Griffiths A J F, et al. An Introduction to Genetic Analysis (2000)*
2. *Conti E, at al. Structure 4(3), 287-298 (1996).*

Description:

Firefly luciferase is 62 kDa protein containing at least 15 point mutations towards increased brightness of catalized bioluminescence reaction with maximum of 548 nm. Protein has enchanced thermal stability up to 45°C and chemical stability in pH range from 5.0 to 8.0.

Firefly luciferase catalyzes the reaction of luciferin with ATP and leads to the production of yellow-green light (1). Luciferase is considered as a model to study protein–anesthetic interactions. Firefly luciferase is highly useful in cell biology and molecular biology, as a reporter of gene function and for the quantification of ATP level (2).

Source: An *E. coli* strain containing a cloned luciferase gene from *Photinus pyralis*.

Format: buffered aqueous solution, ≥10×10^{10} units/mg protein.

Storage Buffer: 300 mM NaCl, 50 mM Tris-HCl (pH 8.0), 0.1 mM EDTA, 1 mM DTT, 50% glycerol.

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