Creative Enzymes®

Luciferase from Photinus pyralis (firefly), Recombinant

Cat. No. NATE-0424

Lot. No. (See product label)

Introduction

Description	Firefly luciferase is an enzyme that catalyzes production of light from luciferin in the presence of Mg2+-ATP and oxygen. The reaction of this enzyme with luciferin, ATP, and O2 results in the emission of light. Luciferase activity can be inhibited by general anesthetics including isoflurane and ketamine/medetomidine thereby affecting the sensitivity of bioluminescence imaging.
Applications	The reaction of this enzyme with luciferin, ATP, and O2 results in the emission of light. Luciferase can be used to detect trace amounts of ATP. Firefly luciferase is also one of the most commonly utilized reporter genes for the study of gene expression. The bioluminescent reaction catalyzed by luciferase is one of the most sensitive analytical tools for measuring gene expression. < or equal to one femtomole of ATP can be detected using 0.2 µg of luciferase.
Synonyms	Photinus-luciferin 4-monooxygenase (ATP-hydrolysing); firefly luciferase; luciferase (firefly luciferin); Photinus luciferin 4-monooxygenase (adenosine triphosphate-hydrolyzing); firefly luciferin luciferase; Photinus pyralis luciferase; EC 1.13.12.7; 61970-00-1

Product Information

Species	Photinus pyralis (firefly)
Source	E. coli
Form	Colorless to pale yellow clear liquid
EC Number	EC 1.13.12.7
CAS No.	61970-00-1
Molecular Weight	62 kDa
Activity	≥2.0 × 10^{11} RLU/mg protein
Unit Definition	One light unit produces a biometer peak height equivalent to 0.02 µCi of 14C in PPO/POPOP cocktail. Light units measured in 50 µl assay mixture containing 5 pmol ATP and 7.5 nmol luciferin in Tris-glycine buffer, pH 7.6, at 25°C.

Storage and Shipping Information

Storage	-20°C