

Luciferase from *E. coli*, Recombinant

Cat. No. NATE-1253

Lot. No. (See product label)

Introduction

Description 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.

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 *E. coli*

Source *E. coli*

Appearance White lyophilizate

EC Number EC 1.13.12.7

Molecular Weight ca. 60 kDa

Activity > 1.0 x 10⁹ relative light units (RLU)/mg lyophilizate Specific activity: 1.4 x 10¹¹ RLU/mg purified protein

pH Stability 6.0–9.0

Optimum pH 7.0–8.5

Thermal stability below ca. 40°C

Michaelis Constant 1.9 x 10⁻⁴ M (ATP) 1.5 x 10⁻⁴ M (D-luciferin)

Structure monomer of ca. 60 kDa (SDS-PAGE)

Unit Definition One relative light unit (RLU) is defined as the amount of enzyme which emits 1 count of light for 20 s at 30°C and pH 7.8.

Storage and Shipping Information

Storage at -20°C

Stability stable at 25°C for at least 5 days (liquid form)