

## 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  $Mg^{2+}$ -ATP and oxygen. The reaction of this enzyme with luciferin, ATP, and  $O_2$  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**  $> 1.0 \times 10^9$  relative light units (RLU)/mg lyophilizate Specific activity:  $1.4 \times 10^{11}$  RLU/mg purified protein

**pH Stability** 6.0–9.0

**Optimum pH** 7.0–8.5

**Thermal stability** below ca. 40°C

**Michaelis Constant**  $1.9 \times 10^{-4}$  M (ATP)  $1.5 \times 10^{-4}$  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)