

## D(-)-Luciferin

Cat. No. CSUB-0354

Lot. No. (See product label)

### Introduction

#### Applications

Substrate for firefly luciferase with a  $K_m$  of approx 2  $\mu M$ . Used for the luminometric determination of Luc activity in cell extracts. Natural substrate of luciferase from firefly. Used together with firefly luciferase for the determination of ATP using bioluminescence.

#### Synonyms

(S)-2-(6-Hydroxy-2-benzothiazolyl)-2-thiazoline-4-carboxylic acid; 4, 5-Dihydro-2-(6-hydroxy-2-benzothiazolyl)-4-thiazolecarboxylic acid; D-Luciferin; Firefly Luciferin

### Product Information

**CAS No.** 2591-17-5

**Molecular Formula** C<sub>11</sub>H<sub>8</sub>N<sub>2</sub>O<sub>3</sub>S<sub>2</sub>

**Molecular Weight** 280.32

**Substrates** Luciferase

### Usage and Packaging

#### Preparation Instructions

Working concentration: For the assay of medium concentrations of ATP ( $10^{-9}$  to  $10^{-6}$  M in the assay cuvette), use 35 to 70  $\mu M$  D(-)-Luciferin. For the assay of low concentrations of ATP ( $10^{-13}$  to  $10^{-8}$  M in the assay cuvette), use 350  $\mu M$  D(-)-Luciferin. For the assay of metabolites convertible to ATP or enzymes which produce ATP, the literature suggests concentrations of D(-)-Luciferin from 35-359  $\mu M$ . Working solution: Preparation of D(-)-Luciferin solution To minimize handling of the unstable compound, prepare a D(-)-Luciferin solution at the approximate concentration desired, then adjust it to the exact concentration on the basis of absorbance at 327 nm. (The absorptivity of D(-)-Luciferin at 327 nm is 18.2 mmol<sup>-1</sup> x l x cm<sup>-1</sup>). For instance, to prepare a 700 M solution of D(-)-Luciferin: • Add 1.5 mg of D(-)-Luciferin to 5 ml of 70 mM Tris-acetate, pH 7.75 [theoretical concentration = 1.07 mM] • Dilute a portion of that stock solution 20-fold with buffer. • Read the absorbance at 327 nm. • Add buffer to the stock so that a 20-fold dilution gives A<sub>327</sub> of 0.637 (concentration of 20-fold dilution = 35  $\mu M$ ; concentration of stock = 700  $\mu M$ )

### Storage and Shipping Information

**Storage** -20°C

**Shipping Conditions** dry ice