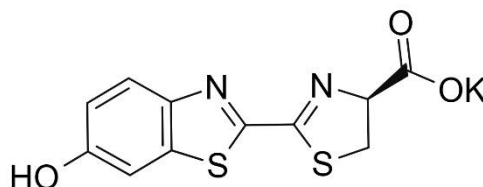


Technical Data Sheet

D-Luciferin potassium

Catalog Number: DLP01, DLP02, DLP03



Chemical Name	(S)-4,5-Dihydro-2-(6-hydroxybenzothiazol-2-yl)thiazole-4-carboxylic acid potassium salt
Physical State	Light yellow solid
CAS NO.	115144-35-9
Molecular Formula	C ₁₁ H ₇ N ₂ O ₃ S ₂ K
Molecular Weight	318.41
Purity	≥ 99.0%
Solubility	30 mg/mL (H ₂ O), >30 mg/mL (PBS: pH 7.2–7.4)

Product Description

D-Luciferin is a commonly used substrate for luciferase. D-Luciferin potassium is the potassium salt form of D-luciferin and exhibits good water solubility. It can be directly prepared in water or routine buffers without alkaline adjustment, making it suitable for *in vitro* and *in vivo* bioluminescence imaging (BLI) and related research applications.

In the presence of ATP and luciferase, D-luciferin is enzymatically oxidized to emit bioluminescence. At saturating D-Luciferin concentrations, luminescence intensity correlates positively with luciferase abundance over a linear range.

Experimental animals such as mice or rats can be implanted with cells transfected with luciferase-encoding plasmids. Upon D-Luciferin administration, animals undergo BLI to track bioluminescent signals for real-time evaluation of disease progression and drug response. This assay can also quantify cellular ATP and energy metabolism.

Transportation and Storage

- Ship at ambient temperature
- Store at low temperature, protect from light
- Powder: -20°C for 3 years
- In solvent: -80°C for 1 year

Applications

- **In Vitro Assays:** For *in vitro* bioluminescence detection and quantitative determination of luciferase expression levels in biological samples.
- **In Vivo Assays:** For *in vivo* bioluminescence imaging (BLI) to real-time monitor disease progression and evaluate drug efficacy in experimental animals. **Energy Metabolism Analysis:** Variations in bioluminescent signals can be used to detect and assess cellular ATP levels and energy metabolism status.

Notice

1. To protect operator safety and health, laboratory coats and disposable gloves must be worn during the entire experimental procedure.
2. Technical information supplied with this product is for customer reference, academic exchange, and scientific research only. Our company makes no warranty regarding the absolute accuracy or completeness of such information.
3. This product is for research use only. Use in clinical diagnosis, therapy, food, pharmaceuticals, or any human-related applications is strictly prohibited. Do not store this product in residential premises.
4. Protect from light during storage and handling. Where feasible, the product solution may be purged with nitrogen or argon to reduce oxidation,

enhancing product stability and shelf life.

5. Avoid repeated freeze-thaw cycles after dissolution. It is highly recommended to prepare a stock solution and store it in single-use aliquots.
6. **Important:** This product is non-sterile. If used for cell culture, appropriate sterilization or aseptic processing must be carried out prior to use.