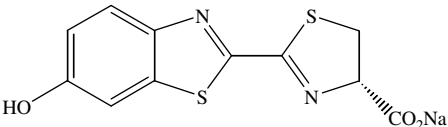


### Instruction Manual

Catalog Number	PK-CA707-10102-2
Description	D-Luciferin is a natural compound isolated from fireflies and is a substrate for the enzyme luciferase. Chemiluminescence at 560 nm is generated when luciferin is oxidized by an ATP-dependent process, catalyzed by luciferase. Luciferase is encoded by the luc gene, which is widely used as a reporter gene in a variety of cells. Because of the intrinsic low background of chemiluminescence technique, detection of the luc gene expression can be made at very low level. In addition, luciferin/luciferase has been used to measure $10^{-15}$ molar quantity of ATP.
Quantity	1 g
Excitation / Emission Maxima	NA
Molecular Structure	 The chemical structure shows a benzimidazole ring system with a hydroxyl group at the 6-position and a 2-thiazolylmethyl group at the 2-position. The thiazolylmethyl group is shown as a five-membered ring with sulfur and nitrogen atoms, and a sodium carboxylate group (-CO <sub>2</sub> Na) attached to the 4-position of the thiazole ring.
Molecular Weight / Molecular Formula	302.3 Da; C <sub>11</sub> H <sub>7</sub> N <sub>2</sub> NaO <sub>3</sub> S <sub>2</sub>
Purity	>98% (as determined by HPLC)
Appearance / Formulation / Solubility	Water-soluble form of D-luciferin. White solid; soluble in water. Avoid alkaline or strongly acidic solution.
Storage & Stability	Store desiccated at -20°C. Protect from light.
Applications	Luciferase assays (e.g. with the Firefly luciferase reporter gene)
References	BioTechniques 7, 1116(1989) Lett. Appl. Microbiol. 1, 208(1990)
Caution	Potentially harmful. Avoid prolonged or repeated exposure. Avoid getting in eyes, on skin, or on clothing. Wash thoroughly after handling. If eye or skin contact occurs, wash affected areas with plenty of water for 15 minutes and seek medical advice. In case of inhaling or swallowing, move individual to fresh air and seek medical advice immediately.

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