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PRODUCT DATA SHEET

Pierce D-Luciferin, Monosodium Salt, 1g

Product Number: 88292 **Lot Number:** AA390587

TEST:	SPECIFICATION:	RESULT:
Color:	Slightly yellow to yellow	Pass
Molar Extinction Coefficient:	≥ 17500 L/(mol cm) at 381-387nm	18110.0 at 385 nm
Molar Extinction Coefficient:	≥ 6000 L/ (mol cm) at 282-286nm	6815.0 at 284nm
Water Content (K. Fischer):	≤ 8.0%	6.8
Purity (HPLC):	≥ 99.0 area%	99.5 area-%
FTIR:	Must correspond to reference spectrum	Pass

Storage: Upon receipt store product at -20ºC. Product is shipped at ambient temperature.

Thermo Scientific D-luciferin is the substrate for firefly luciferase which catalyzes the oxidation of luciferin to oxyluciferin in the presence of ATP and magnesium, resulting in bioluminescence. Light output captured using a luminometer can be correlated with the amount of Firefly luciferase protein produced and used to determine the activity of the promoter driving Firefly luciferase expression.

Important Product Information

- D-Luciferin salts can be used with any existing reporter assay or ATP assay system.
- D-Luciferin salts are soluble in water or aqueous buffer up to 100mM. Stock solutions can be made in ATP-free ultrapure water and stored at -20°C.
- If testing for ATP, minimize all possible sources of ATP contamination by wearing gloves and using ATP-free containers. Use only sterile ATP-free water and reagents. Use autoclaved water for all reagent preparations.
- Follow luminometer manufacturer's instructions for the appropriate settings.
- Store any substrate or samples containing ATP only in polypropylene or glass to prevent loss due to binding of the tube material

Procedure for Determining Luciferin Concentration

1. Pipette 0.5mL of 0.5M carbonate buffer, pH 11.5 into a 1mL cuvette. Place cuvette in the spectrophotometer and zero the instrument.
2. Add 15µL of D-Luciferin solution to cuvette in the sample side and mix well. Measure the absorbance at 381-387nm, using the wavelength listed in the Result column above. Adjust the amount of D-Luciferin solution added to the cuvette so the final absorbance ranges from 0.5 to 1.0.
3. Calculate the sample's concentration using the extinction coefficient at 381-387nm listed in the Result column above. For example, if the solution has an extinction coefficient of 17,500$M^{-1}cm^{-1}$ and absorbance of 0.650 at 385nm, perform the calculations as follows:

$$0.650 = (17{,}500 M^{-1}cm^{-1})(1cm)\,(\text{Concentration in cuvette})$$

$$\text{Concentration in cuvette} = 37.1\mu M$$

$$\text{Concentration in sample} = \frac{(37.1\mu M)(0.515mL)}{0.015\ mL} = 1.27mM$$

Products are under warranty for one year from the date of shipment unless otherwise stated on this document or the product label.

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