

BT11-100 D-luciferin, 100 mg

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| Product: | D-luciferin (free acid), MW 280.27 |
| Expiry date: | 2 years after manufacture for unopened vials stored at -18 °C. |
| Storage: | In freezer. Transport at ambient temperature will not affect the product. |
| Intended use: | Assays based on firefly luciferase. Not for medical use. |
| Synthesis: | The D-luciferin is synthesised by a novel route including a new purification method, which efficiently removes by-products. The D-luciferin is vacuum-dried and stored under argon for maximum stability |
| Purity: | The purity of D-luciferin is essential since impurities such as the stereoisomer L-luciferin are inhibitory to firefly luciferase at levels as low as 0.1 %. The total level of contaminants is < 1.0% (cf. Figures 1-2 at next page). |
| Quantities available: | 100, 500 and 1000 mg (special quantities available on request). |
| QC method: | BioThema has a special lyophilised ATP reagent without luciferin, which is used for the assay of biochemical performance at 25.0 °C using a fully automatic luminometer. The new batch is compared to a reference batch of very high quality D-luciferin. Samples from the two batches are assayed in triplicates at 100, 200 (i. e. the optimal concentration) and 300 µg/mL. Reagent blank, light emission and decay rate are recorded. Light emission is measured as a 10 s integration and the decay rate as the average exponential decay rate over 8 min. |
| Luciferase activity: | At 200 µg/mL the light emission from sample must be within ±3% of the reference batch. At 100 and 300 µg/mL the light emission must be 88±3% and 97±3% of the level at 200 µg/mL. |
| Decay rate of light: | <1 percent per min at 200 µg/mL using the special ATP Reagent designed for quality control. |
| Dissolving D-Luciferin: | D-luciferin (acid form) can be dissolved at a concentration of 10 mg/mL (35.7 mM) in e.g. 50 mmol/L of non-neutralized Tris(hydroxymethyl)aminomethane or in 36.8 mmol/L sodium hydroxide. The addition of the base should be done in dim light and in small portions while stirring, since D-luciferin is sensitive to high pH. The final pH should be in the interval 7.2-7.8. |
| Stability: | D-luciferin is sensitive to light and oxygen. Vials containing solid D-luciferin should be filled with an inert gas such as argon or nitrogen before re-closure. Solid D-luciferin should be stored in the dark at -18 °C. D-luciferin in solution may be stored for at least a month at -80 °C. |

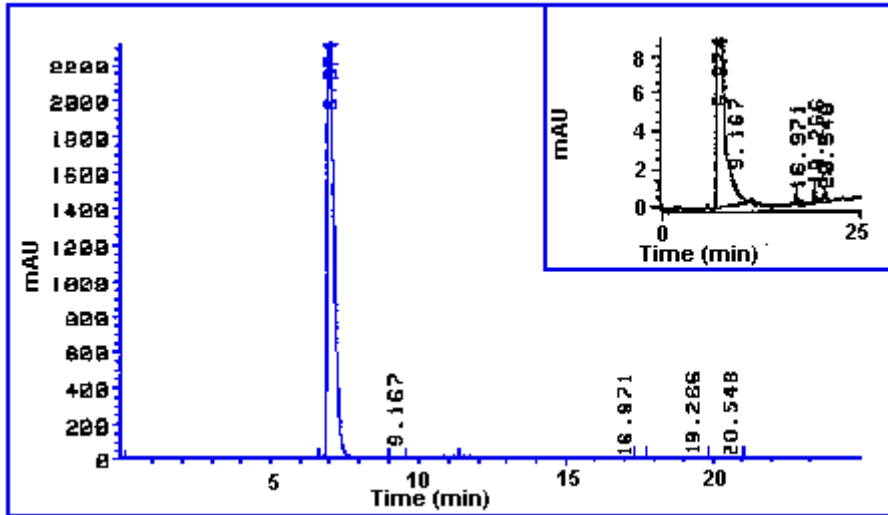


Fig. 1: Chromatogram of D-luciferin (Lot No 102) at 330 nm. Insert shows absorbance using an enlarged scale.

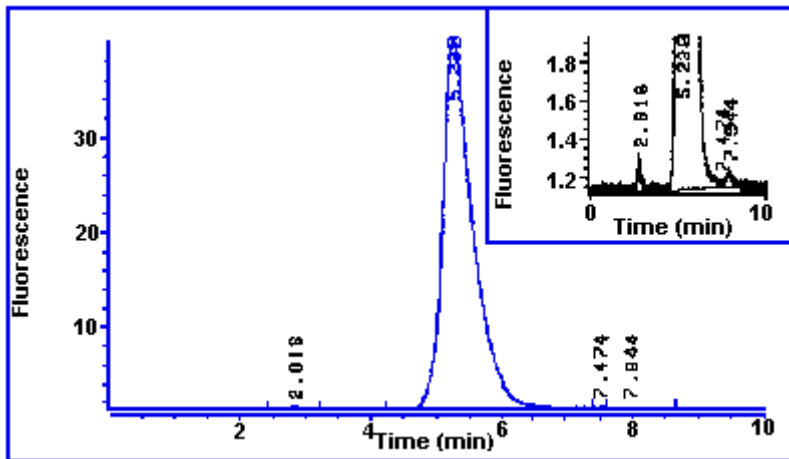


Fig. 2: Chromatogram of D-luciferin (Lot No 102) using fluorescence detector. Insert shows fluorescence using an enlarged scale.