

Product Datasheet

Recombinant Luciferase (firefly) Protein NBP3-18743

Unit Size: 1 mg

Store at -20 degrees C. Avoid freeze/thaw cycles.

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NBP3-18743**Recombinant Luciferase (firefly) Protein**

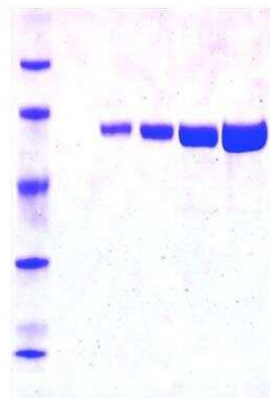
Product Information	
Unit Size	1 mg
Concentration	Lyoph
Storage	Store at -20 degrees C. Avoid freeze/thaw cycles.
Preservative	No Preservative
Reconstitution Instructions	To obtain maximal solubility it is important to reconstitute the enzyme at a high salt concentration, such as 1 M Tris buffer with any counter ion at pH 7-8. Can be prepared at a concentration of up to 5 mg protein/ml. Do not vortex and avoid agitation.
Purity	>98%, by SDS-PAGE
Buffer	Lyophilized powder containing HEPES, pH 7.5, NaCl, MgCl ₂ , EDTA, DTT and a carbohydrate stabilizer.
Target Molecular Weight	62 kDa

Product Description	
Description	Luciferase from Photinus pyralis (firefly) recombinant, expressed in Escherichia coli, lyophilized powder, $\geq 10 \times 10^{10}$ units/mg protein
Preparation Method	Luciferase from Photinus pyralis (firefly) recombinant, expressed in Escherichia coli
Notes	Store the product at -20C. After reconstitution, the enzyme solutions can kept at 4-8C for up to 2 days or frozen in working aliquots at -20C for at least one month. Repeated freezing and thawing is not recommended. Do not store in a frost-free freezer.

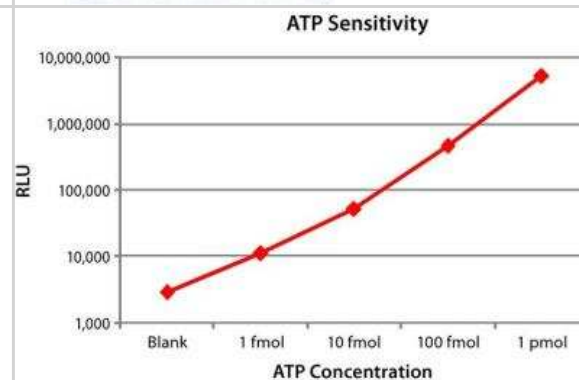
Product Application Details	
Applications	Functional, SDS-Page, N/A
Recommended Dilutions	Functional, SDS-Page, N/A
Application Notes	<p>Application: diagnostic assay manufacturing</p> <p>Specific Activity: $\geq 10 \times 10^{10}$ light units/mg protein</p> <p>Unit definition: One luciferase enzyme unit will produce one Relative Light Unit (RLU) at 20-25C over a 10 s period, measured in 100 ml assay mixture containing 40 pmole ATP and 15 nmole luciferin in Tris-glycine buffer, pH 7.6, using a GloMax(R) 20/20 Luminometer.</p> <p>Unit Definition Conversion Factor: There are approximately 9000 Relative Light Units (RLU) per one traditional Light Unit that uses a peak height equivalent to 0.02 uCi of ¹⁴C in a PPO/POPOP cocktail</p>

Images

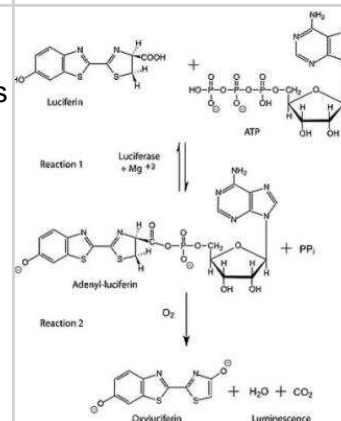
SDS-Page: Recombinant Luciferase (firefly) Protein [NBP3-18743] - 10% SDS-PAGE analysis



Functional: Recombinant Luciferase (firefly) Protein [NBP3-18743] - An ATP dose response curve was performed in 50 ul reaction cocktails containing decreasing amounts of ATP, 0.2 ug Luciferase, and 15 nmol luciferin in a Tris-glycine buffer, pH 7.6 supplemented with 0.5 mM EDTA, 5 mM MgSO₄ and 0.1% BSA. Luminescence was measured at 22C for 10 s in quadruplicates, using a GloMax 20/20 Luminometer.



Recombinant Luciferase (Firefly) Protein [NBP3-18743]—ATP is hydrolyzed, and light is emitted when firefly luciferase catalyzes the oxidation of D-luciferin. Reaction (1) is reversible, and the equilibrium lies far to the right. Reaction (2) is essentially irreversible. When ATP is the limiting reagent, the light emitted is proportional to the ATP present.





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