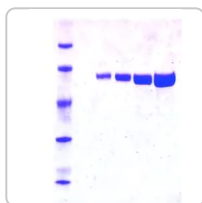


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Saisir le nom du produit, le numéro de lot, etc.

**Toutes les  
photos** (3)**SRE0045** ▶ **Sigma-Aldrich**

## Luciferase from *Photinus pyralis* (firefly)

★★★★★ (0)

recombinant, expressed in *E. coli*, lyophilized powder, ≥10×10<sup>10</sup> units/mg protein

Synonyme(s):

Luciferase firefly

Documents

**FDS** **COO/COA** **Fiche des  
caractéristiques****Plus de  
documents** »

|             |                     |                                                       |                                  |
|-------------|---------------------|-------------------------------------------------------|----------------------------------|
| Numéro CAS: | <b>61970-00-1</b>   | Numéro de classification<br>(Commission des enzymes): | <b>1.13.12.7 (BRENDA, IUBMB)</b> |
| Numéro MDL: | <b>MFCD00131546</b> | NACRES:                                               | NA.54                            |

| Référence    | Conditionnement | Disponibilité                                                              | Prix     | Quantité                                                      |
|--------------|-----------------|----------------------------------------------------------------------------|----------|---------------------------------------------------------------|
| SRE0045-1MG  | 1 MG            | ✓ Only 1 left in stock (more on the way) <a href="#">Détails...</a>        | 142,00 € | <input type="text" value="1"/> <input type="text" value="2"/> |
| SRE0045-2MG  | 2 MG            | ✓ Disponible pour expédition le 10 octobre 2022 <a href="#">Détails...</a> | 242,00 € | <input type="text" value="1"/> <input type="text" value="2"/> |
| SRE0045-10MG | 10 MG           | ✓ Disponible pour expédition le 10 octobre 2022 <a href="#">Détails...</a> | 824,00 € | <input type="text" value="1"/> <input type="text" value="2"/> |

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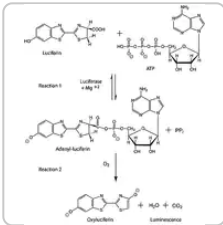
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PRODUITS RECOMMANDÉS



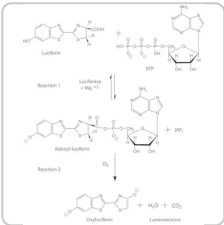
Sigma-Aldrich

L9420

Luciferase from *Photinus pyralis* (firefly)

recombinant, expressed in *E. coli*, buffered aqueous solution, ≥10×10<sup>10</sup> units/mg protein

Consulter le prix et la disponibilité



Sigma-Aldrich

L8507

Luciferase from *Vibrio fischeri* (Photobacterium f)

lyophilized powder

Consulter le prix et la disponibilité

PROPRIÉTÉS

|                   |                                       |
|-------------------|---------------------------------------|
| Recombinant       | expressed in <i>E. coli</i>           |
| Niveau de qualité | 200                                   |
| Forme             | lyophilized powder                    |
| specific activity | ≥10×10 <sup>10</sup> units/mg protein |
| Poids mol.        | 62 kDa                                |
| application(s)    | diagnostic assay manufacturing        |

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**DESCRIPTION****Application**

Firefly luciferase is used extensively in molecular and cell biology, in particular for the efficient detection and quantitation of ATP and as a reporter for genetic function.

**Actions biochimiques/physiologiques**

Firefly luciferase is a 62 kDa protein that catalyzes the production of light. The enzyme requires ATP, molecular oxygen, and the heterocyclic compound, firefly luciferin, to generate light in a two-step process. The light producing reaction is initiated by luciferin activation (adenylation of its carboxylate group) and proceeds in the presence of molecular oxygen to yield a photon of yellow-green light.

**Définition de l'unité**

One luciferase enzyme unit will produce one Relative Light Unit (RLU) at 20-25 °C over a 10 second period, measured in 100 µl assay mixture containing 40 pmol ATP and 15 nmol luciferin in Tris-glycine buffer, pH 7.6, using a GloMax 20/20 Luminometer.

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 µCi of <sup>14</sup>C in a PPO/POPOP cocktail.

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This product is a recombinant luciferase (62 kDa) from *Photinus pyralis* (American firefly) produced from the luc gene expressed in *E. coli*.

## Notes préparatoires

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. The enzyme can be prepared at a concentration of up to 5 mg protein/ml. Do not vortex and avoid agitation.

After reconstitution, the enzyme solutions can be kept at 4-8 °C for up to 2 days or frozen in working aliquots at -20°C for at least one month. Repeated freezing and thawing is not recommended.

## PRODUITS APPARENTÉS

### Substrat

#### L6882

D-Luciferin sodium salt, lyophilized powder, synthetic

[View Pricing](#)

#### A2383

Adenosine 5'-triphosphate disodium salt hydrate, Grade I, ≥99%, from microbial

[View Pricing](#)

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Danger

**Mentions de danger****H318****Conseils de prudence****P280 - P305 + P351 + P338****Classification des risques**

Eye Dam. 1

**Code de la classe de stockage**

11 - Combustible Solids

**WGK**

WGK 3

**Flash Point(F)**

Not applicable

**Point d'éclair C**

Not applicable

## DOCUMENTATION

**Certificat d'analyse**

Saisir un numéro de lot pour rechercher un certificat d'analyse (COA).

Numéro de lot

e.g. 023J5431

**Comment saisir un numéro de lot (COA)****Rechercher****Certificat d'origine**

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e.g. 02555451

Comment saisir un numéro de lot (COO)

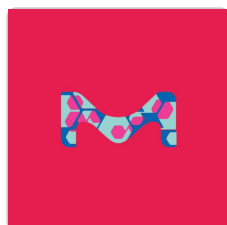
Rechercher

## Plus De Documents

Enzyme Explorer

FDS

## LES CLIENTS ONT ÉGALEMENT CONSULTÉ



Sigma-Aldrich

**F6303**

**Firefly Lantern Extract**

pkg of 100 mg

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### PA28α overexpressing female mice maintain exploratory behavior and capacity to prevent protein aggregation in hippocampus as they age.

**Julia Adelöf et al.**

*Aging cell, 20(4), e13336-e13336 (2021-03-16)*

With age, protein damage accumulates and increases the risk of age-related diseases. The proteasome activator PA28αβ is involved in protein damage clearance during early embryogenesis and has demonstrated protective effects against proteinopathy. We have recently discovered that adult female mice

### Portable bioluminescent platform for in vivo monitoring of biological processes in non-transgenic animals.

**Aleksey Yevtodiyenko et al.**

*Nature communications, 12(1), 2680-2680 (2021-05-13)*

Bioluminescent imaging (BLI) is one of the most powerful and widely used preclinical imaging modalities. However, the current technology relies on the use of transgenic luciferase-expressing cells and animals and therefore can only be applied to a limited number of

### Comparison of properties of commercially available crystalline native and recombinant firefly luciferases.

**SR Ford et al.**

*Journal of bioluminescence and chemiluminescence, 7(3), 185-193 (1992-07-01)*

Commercially available crystalline native and recombinant firefly luciferases were compared. The two types of luciferase had indistinguishable responses to variation in ATP and luciferin concentrations and to omission of reaction components. The time courses of light production, the responses to

### KIF4A promotes the development of bladder cancer by transcriptionally activating the expression of CDCA3.

**Pengyi Zheng et al.**

*International journal of molecular medicine, 47(6) (2021-04-14)*

Bladder cancer (BC) is among the most common urinary system tumors with a high morbidity and mortality worldwide. Despite advancements being made in the diagnosis and treatment of bladder cancer, targeted therapy remains the most promising treatment, and novel therapeutic

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In addition to acting as a cellular energy source, ATP can also act as a damage-associated molecular pattern in both animals and plants. Stomata are leaf pores that control gas exchange and, therefore, impact critical functions such as photosynthesis, drought

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## PROTOCOLES ET ARTICLES SCIENTIFIQUES

### Articles

#### Bioluminescent Firefly Luciferase Assays

Firefly luciferase is a widely used bioluminescent reporter for studying gene regulation and function. It is a very sensitive genetic reporter due to the absence of endogenous luciferase activity in mammalian cells or tissues.

## PRODUITS CONSULTÉS RÉCEMMENT



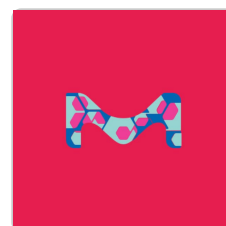
Sigma-Aldrich

**SRE0041**

**Catalase from bovine liver**

Suitable for manufacturing of diagnostic kits and reagents, lyophilized powder, 2,000-5,000 units/mg...

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Sigma-Aldrich

**SRE0033**

**Tris Acetate-EDTA Buffer 50X concentrate**

Reagent designed and manufactured under cGMP controls suitable for use in an IVD application

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