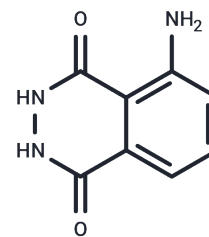


## Luminol

## Chemical Properties

|                   |  |
|-------------------|--|
| CAS No. :         | 521-31-3   |
| Formula:          | C <sub>8</sub> H <sub>7</sub> N <sub>3</sub> O <sub>2</sub>  |
| Molecular Weight: | 177.16   |
| Storage:          | Keep away from direct sunlight<br>Powder: -20°C for 3 years   In solvent: -80°C for 1 year<br><small>Actual storage temperature shall be subject to the COA.</small> |



## Biological Description

|               |  |
|---------------|--|
| Description   | Luminol (Diogenes reagent)(Diogenes reagent) is a versatile chemical, exhibits chemiluminescence, with a striking blue glow, when mixed with an appropriate oxidizing agent.   |
| Targets(IC50) | Others   |
| In vitro      | <p>Instructions for use</p> <p>I. Solution preparation</p> <p>1. Stock solution: Dissolve Luminol in an alkaline solution (such as 0.1 M NaOH or 50 mM Tris-HCl, pH 8.5-9.0), usually at a concentration of 10-50 mM.<br/>Note: The powder should be stored in a dry environment at -20°C away from light; the stock solution can be stored at 4°C for a short period of time, and it is recommended to store it at -20°C after aliquoting away from light for a long period of time to avoid repeated freezing and thawing.</p> <p>2. Working solution: Dilute the stock solution to a final concentration of 0.1-1 mM. (Please adjust the working solution concentration according to experimental requirements)</p> <p>II. Operation steps</p> <p>1. Chemiluminescent reaction<br/>Luminol generates light through peroxidase (such as H<sub>2</sub>O<sub>2</sub>) or catalyst (such as iron ions) in the presence of peroxide (such as H<sub>2</sub>O<sub>2</sub>).</p> <p>1) Reaction system:<br/>2) Add peroxide (such as 0.1-10 mM H<sub>2</sub>O<sub>2</sub>) and enzyme (such as 1-10 µg/mL HRP) as excitation agents.<br/>3) Detection method: Measure the light signal by a chemiluminescence detector (such as a microplate luminescence reader).</p> <p>Notes:</p> <p>1. Luminol is sensitive to light and oxygen. Avoid light and air exposure during operation.<br/>2. Use the working solution as soon as possible after preparation to reduce degradation and signal attenuation.<br/>3. Luminol concentration is an important factor affecting the intensity of chemiluminescence (CL). The intensity of luminol chemiluminescence (LCL) depends not only on the concentration of luminol, but also on other factors such as the concentration of oxidants, enzymes, and pH. The maximum recorded CL intensity is at a luminol</p> |

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|          |   |
|----------|---|
| In vitro | concentration of 0.3 mM. In the range of 0.01 to 0.3 mM, the CL intensity increases linearly with the increase of luminol concentration. However, further increasing the luminol concentration resulted in a decrease in the luminescence intensity.<br><br>The above information is based on published literature. Experimental procedures should be appropriately modified to meet specific research demands. |
|----------|---|

### Solubility Information

|                     |  |
|---------------------|--|
| Solubility          | DMSO: 41.67 mg/mL (235.21 mM), Sonication is recommended.<br>(< 1 mg/ml refers to the product slightly soluble or insoluble)   |
| In vivo Formulation | 10% DMSO+40% PEG300+5% Tween-80+45% Saline: 2 mg/mL (11.29 mM), Sonication is recommended.<br><i>Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.</i> |

### Preparing Stock Solutions

|       | 1mg       | 5mg        | 10mg       |
|-------|-----------|------------|------------|
| 1 mM  | 5.6446 mL | 28.2231 mL | 56.4462 mL |
| 5 mM  | 1.1289 mL | 5.6446 mL  | 11.2892 mL |
| 10 mM | 0.5645 mL | 2.8223 mL  | 5.6446 mL  |
| 50 mM | 0.1129 mL | 0.5645 mL  | 1.1289 mL  |

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

### Reference

Wu Y, et al. Transient receptor potential vanilloid 4 (TRPV4) in neutrophils enhances myocardial ischemia/reperfusion injury. *J Leukoc Biol.* 2023 Sep 1;114(3):266-279.

Mayer M, et al. Shedding Light on the Diversity of Surfactant Interactions with Luminol Electrochemiluminescence for Bioanalysis. *Anal Chem.* 2019 Oct 15;91(20):13080-13087.

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