# CycLuc1

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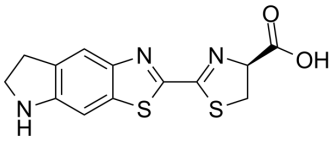
|---|---|
| **Cat. No.:** | HY-111653 |
| **CAS No.:** | 1247879-16-8 |
| **Molecular Formula:** | $C_{13}H_{11}N_3O_2S_2$ |
| **Molecular Weight:** | 305.38 |
| **Target:** | Reactive Oxygen Species |
| **Pathway:** | Immunology/Inflammation; Metabolic Enzyme/Protease; NF-κB |
| **Storage:** | 4°C, protect from light<br>* In solvent : -80°C, 6 months; -20°C, 1 month (protect from light) |



## SOLVENT & SOLUBILITY

**In Vitro**

DMSO : ≥ 83.33 mg/mL (272.87 mM)

* "≥" means soluble, but saturation unknown.

**Preparing Stock Solutions**

| Concentration \ Solvent \ Mass | 1 mg | 5 mg | 10 mg |
|---|---|---|---|
| 1 mM | 3.2746 mL | 16.3730 mL | 32.7461 mL |
| 5 mM | 0.6549 mL | 3.2746 mL | 6.5492 mL |
| 10 mM | 0.3275 mL | 1.6373 mL | 3.2746 mL |

Please refer to the solubility information to select the appropriate solvent.

**In Vivo**

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.08 mg/mL (6.81 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (6.81 mM); Clear solution

## BIOLOGICAL ACTIVITY

**Description**

CycLuc1 is a blood-brain barrier permeable luciferase substrate that displays near-infrared (NIR) emission with a peak luminescence wavelength of 599 nm. CycLuc1 can be used for in vivo bioluminescence imaging[1][2].

**$IC_{50}$ & Target**

Luciferase[1]

**In Vivo**

CycLuc1 (0.05-5 mM, intraperitoneally injected) can improve bioluminescence imaging (BLI) of the existing luciferase reporter protein in mice and achieve brain imaging that D-luciferin cannot achieve[2].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

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|---|---|
| Animal Model: | Mouse xenograft tumor models[2] |
| Dosage: | 0.05, 0.5, 1, 5 mM, 100 μL |
| Administration: | i.p. |
| Result: | Yielded a >10-fold higher bioluminescent signal than could be obtained from D-luciferin injection at equivalent doses. |

## CUSTOMER VALIDATION

- bioRxiv. 2023 Apr 29.

See more customer validations on www.MedChemExpress.com

## REFERENCES

[1]. Evans MS, et al. A synthetic luciferin improves bioluminescence imaging in live mice. Nat Methods. 2014 Apr;11(4):393-5. doi: 10.1038/nmeth.2839. Epub 2014 Feb 9. Erratum in: Nat Methods. 2014 Apr;11(4):395.

[2]. Shiv K, et al. Abstract 4112: Synthetic luciferin, CycLuc1, improves bioluminescence imaging for intracranial glioblastoma xenografts. 10.1158/1538-7445.AM2018-4112



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