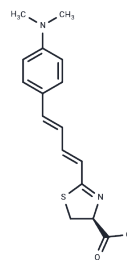


## AkaLumine

## Chemical Properties

|                   |  |
|-------------------|--|
| CAS No. :         | 1176235-08-7   |
| Formula:          | C <sub>16</sub> H <sub>18</sub> N <sub>2</sub> O <sub>2</sub> S  |
| Molecular Weight: | 302.39   |
| Storage:          | Keep away from direct sunlight, Store at low temperature<br>Powder: -20°C for 3 years   In solvent: -80°C for 1 year<br><i>Actual storage temperature shall be subject to the COA.</i> |



## Biological Description

|             |  |
|-------------|--|
| Description | AkaLumine (Aka Lumine) is a firefly luciferin analog that is a luciferase substrate that binds to Abeta aggregates and plaques. AkaLumine is used for in vivo optical imaging.   |
| In vitro    | In LLC/luc and MDA-MB-231/Luc cells treated with AkaLumine, the signal began to peak at a lower concentration of 2.5 μM. In contrast, bioluminescence produced by D-luciferin and CycLuc1 continued to rise with increasing concentration and did not reach a significant saturation point even at the highest concentration of 250 μM. [1]  |
| In vivo     | In a time course of bioluminescence production in vivo, AkaLumine displayed a stable glow-type reaction at various injection doses and its bioluminescence production remained elevated longer at the higher concentrations; this temporally more stable bioluminescence production may be beneficial for acquiring images without influence of acquisition time. Furthermore, AkaLumine has a relatively longer half-life (40min) in serum. These results suggest that AkaLumine would be a suitable substrate for in vivo imaging. [1] |

## Preparing Stock Solutions

|       | 1mg       | 5mg        | 10mg       |
|-------|-----------|------------|------------|
| 1 mM  | 3.307 mL  | 16.5349 mL | 33.0699 mL |
| 5 mM  | 0.6614 mL | 3.307 mL   | 6.614 mL   |
| 10 mM | 0.3307 mL | 1.6535 mL  | 3.307 mL   |
| 50 mM | 0.0661 mL | 0.3307 mL  | 0.6614 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

Kuchimaru T, et al. A luciferin analogue generating near-infrared bioluminescence achieves highly sensitive deep-tissue imaging. Nat Commun. 2016 Jun 14;7:11856.

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