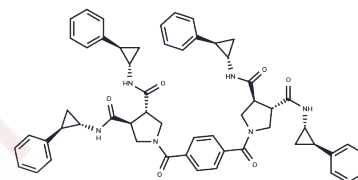


## Diprovocim-1

## Chemical Properties

CAS No. :	2170867-89-5
Formula:	C <sub>56</sub> H <sub>56</sub> N <sub>6</sub> O <sub>6</sub>
Molecular Weight:	909.10
Storage:	Powder: -20°C for 3 years   In solvent: -80°C for 1 year Actual storage temperature shall be subject to the COA.



## Biological Description

Description	Diprovocim-1 is a highly potent, small-molecule TLR1/TLR2 dual agonist with an EC <sub>50</sub> of 110 pM for human TLR1/TLR2. Diprovocim-1 can be used in research on immunological adjuvants and anticancer vaccines.
Targets(IC50)	Others, NF-κB, p38 MAPK, TLR, TNF
In vitro	<p>Methods: MODE-K cells were treated with Diprovocim-1 (0.5 μM) for 12 hours, followed by irradiation with <sup>60</sup>Co γ-rays (6 Gy). Western blot analysis was performed to detect the expression of TLR2, MyD88, p-p38, p-JNK, and p-ERK.</p> <p>Results: Diprovocim-1 upregulated TLR2 and MyD88 expression and activated the MAPK pathway. [1]</p> <p>Methods: OVA-Cy5 (5 μg) or Diprovocim-1 (1 μM) was added to JAWSII (DC line), RAW264.7 (macrophage line), and mouse bone marrow-derived DCs, and the cells were incubated for 24 h. Cy5 MFI was quantified by flow cytometry and immunofluorescence.</p> <p>Results: Diprovocim-1 significantly enhanced the uptake of OVA-Cy5 by JAWSII and RAW264.7 cells.[2]</p>
In vivo	<p>Methods: Male C57BL/6 mice were subjected to whole-body irradiation with <sup>60</sup>Co γ-rays (7.5 Gy or 12 Gy). Diprovocim-1 (10 mg/kg) or saline was administered intraperitoneally 18 hours and 2 hours prior to irradiation. Body weight was measured daily for 5 days post-irradiation, and Kaplan-Meier survival curves were analyzed.</p> <p>Results: Diprovocim-1 significantly prolonged survival time in mice following 7.5 Gy and 12 Gy irradiation and attenuated weight loss in mice following 12 Gy irradiation. [1]</p> <p>Methods: C57BL/6 mice were immunized via the intranasal or intramuscular route, with a total of 3 doses administered at 2-week intervals. The mice were divided into OVA (30 μg) alone and OVA + Diprovocim-1 (30 μg) groups. Samples were collected 24 hours after a single administration.</p> <p>Results: Diprovocim-1 significantly enhanced the ability of antigen-specific CD4<sup>+</sup> and CD8<sup>+</sup> T cells to produce IFN-γ and TNF-α.[2]</p>

## Solubility Information

Solubility	H <sub>2</sub> O: < 1 mg/mL (insoluble) DMSO: 26.66 mg/mL (29.33 mM), Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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### Preparing Stock Solutions

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	<b>1mg</b>	<b>5mg</b>	<b>10mg</b>
1 mM	1.100 mL	5.4999 mL	10.9999 mL
5 mM	0.220 mL	1.100 mL	2.200 mL
10 mM	0.110 mL	0.550 mL	1.100 mL
50 mM	0.022 mL	0.110 mL	0.220 mL

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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

Fang D, Zhao H, Pei L, et al. Diprovocim protects against the radiation-induced damage via the TLR2 signaling pathway. *Mol Med.* 2025;31(1):139. Published 2025 Apr 17.

Huang Z, Deng C, Peng L, et al. Self-assembling TLR2 agonists promote mucosal immune responses without pulmonary immunopathologic injuries in mice. *NPJ Vaccines.* 2025;10(1):127. Published 2025 Jun 18.

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