5-A-RU-PABC-Val-Cit-Fmoc

Cat. No.: HY-131296

CAS No.: 2677841-58-4

Molecular Formula: $C_{43}H_{53}N_9O_{13}$

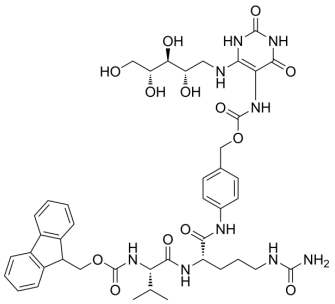
Molecular Weight: 903.93

Target: Others

Pathway: Others

Storage: -20°C, sealed storage, away from moisture

* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 150 mg/mL (165.94 mM; Need ultrasonic)

Preparing Stock Solutions	Concentration \ Solvent \ Mass	1 mg	5 mg	10 mg
	1 mM	1.1063 mL	5.5314 mL	11.0628 mL
	5 mM	0.2213 mL	1.1063 mL	2.2126 mL
	10 mM	0.1106 mL	0.5531 mL	1.1063 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: ≥ 3.75 mg/mL (4.15 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: 3.75 mg/mL (4.15 mM); Suspended solution; Need ultrasonic
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 3.75 mg/mL (4.15 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

5-A-RU-PABC-Val-Cit-Fmoc is the proagent of 5-A-RU[1]. 5-A-RU, a precursor of bacterial Riboflavin, is a mucosal-associated invariant T (MAIT) cells activator. 5-A-RU forms potent MAIT-activating antigens via non-enzymatic reactions with small molecules, such as glyoxal and methylglyoxal, which are derived from other metabolic pathways[2][3][4].

In Vitro

When added to MAIT cell cultures, 5-A-RU-PABC-Val-Cit-Fmoc (Compound 10) induces higher levels of mucosal-associated invariant T (MAIT) cell activation than 5-A-RU alone[1].

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

CUSTOMER VALIDATION

- Research Square Preprint. 2023 Aug 30.

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REFERENCES

[1]. Joshua Lange, et al. The Chemical Synthesis, Stability, and Activity of MAIT Cell Prodrug Agonists That Access MR1 in Recycling Endosomes. ACS Chem Biol. 2020 Feb 21;15(2):437-445.

[2]. Corbett AJ, et al. T-cell activation by transitory neo-antigens derived from distinct microbial pathways. Nature. 2014 May 15;509(7500):361-5.

[3]. Eckle SB, et al. Recognition of Vitamin B Precursors and Byproducts by Mucosal Associated Invariant T Cells. J Biol Chem. 2015 Dec 18;290(51):30204-11.

[4]. Soudais C, et al. In Vitro and In Vivo Analysis of the Gram-Negative Bacteria-Derived Riboflavin PrecursorDerivatives Activating Mouse MAIT Cells. J Immunol. 2015 May 15;194(10):4641-9.

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