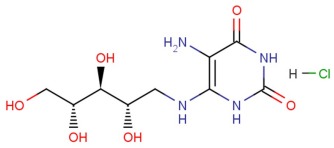
Data Sheet (Cat.No.T10165L)

TargetMol
A DRUG SCREENING EXPERT

5-A-RU hydrochloride

Chemical Properties



CAS No.:	134452-11-2
Formula:	C9H17ClN4O6
Molecular Weight:	312.71
Appearance:	N/A
Storage:	0-4℃ for short term (days to weeks), or -20℃ for long term (months).

Biological Description

Description	5-Amino-6-(D-ribitylamino)uracil hydrochloride, 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 that are derived from other metabolic pathways.
Targets(IC_{50})	Others: None
In vitro	5-A-RU presents in diverse bacteria and yeast as well as plants. 5-A-RU plays an important role in MAIT cell activation, MR1 could not be refolded efficiently with 5-ARU alone. 5-A-RU is a precursor for MAIT cell ligand [2]. 5-A-RU can react extemporaneously with glyoxal and methylglyoxal to generate pyrimidine adducts that activate mouse MAIT cells from STg (iVa19) and DTg (iVa19Vb6) animals [3].
In vivo	5-A-RU (100 nM; i.p.; 18 hours) and methylglyoxal (MeG) are mixed extemporaneously, MAIT cells are activated in iVa19 Cα-/- Tg mice (generated on the C57BL/6 background) [3].

Solubility Information

Solubility	< 1 mg/ml refers to the product slightly soluble or insoluble

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.198 mL	15.989 mL	31.979 mL
5 mM	0.64 mL	3.198 mL	6.396 mL
10 mM	0.32 mL	1.599 mL	3.198 mL
50 mM	0.064 mL	0.32 mL	0.64 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. The storage conditions and period of the stock solution: - 80 ℃ for 6 months; - 20 ℃ for 1 month. Please use it as soon as possible.

Reference

1. Corbett AJ, et al. T-cell activation by transitory neo-antigens derived from distinct microbial pathways. Nature. 2014 May 15;509(7500):361-5.
2. Eckle SB, et al. Recognition of Vitamin B Precursors and Byproducts by Mucosal Associated Invariant T Cells.
3. 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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