

Product Data Sheet

Product Name: 5-Amino-6-(D-ribitylamino)uracil (hydrochloride)

Cat. No.: GC45355

Chemical Properties

Cas. No. 134452-11-2

SMILES O=C(C(N)=C(NC[C@H](O)[C@H](O)[C@H](O)CO)N1)NC1=O.Cl.Cl

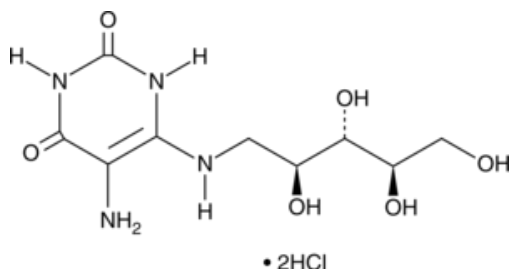
Formula C9H16N4O6.2HCl M.Wt 349.2

Solubility DMSO: Slightly Soluble, Water: Slightly Soluble
Storage Store at -20°C

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution: ship with blue ice. All other available size: ship with RT, or blue ice upon request.

Structure



Background

5-Amino-6-(D-ribitylamino)uracil (5-A-RU) is a derivative of uracil and a precursor to riboflavin.^{1,2} It reacts non-enzymatically with dihydroxy acetone, methylglyoxal, or glyoxal to activate mucosal-associated invariant T (MAIT) cells isolated from iVα19-Tg and iVα19Vβ6-DTg mice.² 5-A-RU (100 nM, i.p.), when administered in combination with methylglyoxal, activates MAIT cells in iVα19 Cα-/- Tg mice. It is also a substrate for F0 synthase, an enzyme involved in the biosynthesis of the energy metabolism cofactor F420 in archaea, bacteria, and eukaryotes.¹

References

1. Decamps, L., Philmus, B., Benjdia, A., et al. Biosynthesis of F0, precursor of the F420 cofactor, requires a unique two radical-SAM domain enzyme and tyrosine as substrate. J. Am. Chem. Soc. 134(44), 18173-18176 (2012).

Caution: Product has not been fully validated for medical applications. For research use only.

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2. Soudais, C., Samassa, F., Sarkis, M., et al. In vitro and in vivo analysis of the gram-negative bacteria-derived riboflavin precursor derivatives activating mouse MAIT cells. J. Immunol. 194(10), 4641-4649 (2015).

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