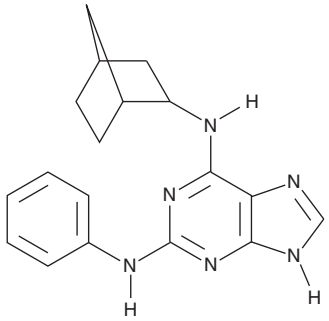
PRODUCT INFORMATION

CAY10498

Item No. 10007955

CAS Registry No.: 863202-33-9
Formal Name: 1H-purine-2,6-diamine-N6-(1R,2S,4S)-bicyclo[2.2.1]hept-2-yl-N2-phenyl
Synonym: 2-phenyl-amino-N6-endo-norbornyladenine
MF: $C_{18}H_{20}N_6$
FW: 320.4
Purity: ≥95%
Stability: ≥1 year at -20°C
Supplied as: A crystalline solid
UV/Vis.: λ_{max}: 257 nm



Laboratory Procedures

For long term storage, we suggest that CAY10498 be stored as supplied at -20°C. It should be stable for at least one year.

CAY10498 is supplied as a crystalline solid. A stock solution may be made by dissolving the CAY10498 in the solvent of choice. CAY10498 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of CAY10498 in ethanol is approximately 1 mg/ml and approximately 10 mg/ml in DMSO and DMF.

CAY10498 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, CAY10498 should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. CAY10498 has a solubility of approximately 0.2 mg/ml in a 1:4 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

The A_1, A_{2A}, A_{2B}, and A_3 adenosine receptors (ARs) are ubiquitous G protein-coupled receptors. The four AR subtypes have been implicated in several areas of therapeutic interest such as stroke and other ischemic conditions, as well as inflammation, neurodegenerative diseases, diabetes, and sleep regulation.[1] A_3 AR antagonists are of interest as therapeutic agents in glaucoma and inflammation. CAY10498 is a potent and selective A_3 AR antagonist exhibiting a K_i of 37 nM with 60 and 200-fold selectivity over A_1 and A_{2A} adenosine receptors, respectively.[1] CAY10498 is also a structural analog of reversine, a dedifferentiation agent of embryonic progenitor cells.[2] However, no dedifferentiation effects or any connection between A_3 AR antagonism and dedifferentiation have been demonstrated.

References

1. Perreira, M., Jiang, J., Klutz, A.M., *et al*. "Reversine" and its 2-substituted adenine derivatives as potent and selective A_3 recptor antagonists. *J. Med. Chem.* **48**, 4910-4918 (2005).
2. Chen, S., Zhang, Q., Wu, X., *et al*. Dedifferentiation of lineage-committed cells by a small molecule. *J. Am. Chem. Soc.* **126**, 410-411 (2004).

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