

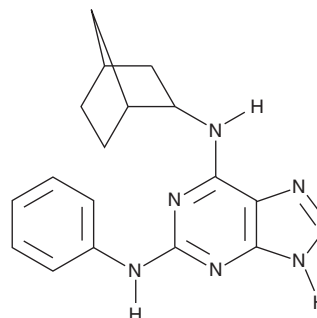
# PRODUCT INFORMATION



**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<sub>18</sub>H<sub>20</sub>N<sub>6</sub>  
**FW:** 320.4  
**Purity:** ≥95%  
**Stability:** ≥1 year at -20°C  
**Supplied as:** A crystalline solid  
**UV/Vis.:** λ<sub>max</sub>: 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<sub>1</sub>, A<sub>2A</sub>, A<sub>2B</sub>, and A<sub>3</sub> 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.<sup>1</sup> A<sub>3</sub> AR antagonists are of interest as therapeutic agents in glaucoma and inflammation. CAY10498 is a potent and selective A<sub>3</sub> AR antagonist exhibiting a K<sub>i</sub> of 37 nM with 60 and 200-fold selectivity over A<sub>1</sub> and A<sub>2A</sub> adenosine receptors, respectively.<sup>1</sup> CAY10498 is also a structural analog of reversine, a dedifferentiation agent of embryonic progenitor cells.<sup>2</sup> However, no dedifferentiation effects or any connection between A<sub>3</sub> 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<sub>3</sub> receptor 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).

### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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