PRODUCT INFORMATION

Proxyphylline
Item No. 20937

CAS Registry No.: 603-00-9
Formal Name: 3,7-dihydro-7-(2-hydroxypropyl)-1,3-dimethyl-1H-purine-2,6-dione
Synonym: NSC 163343
MF: C_{10}H_{14}N_{4}O_{3}
FW: 238.2
Purity: ≥98%
UV/Vis.: λ_{max}: 273, 324 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: As supplied, 2 years from the QC date provided on the Certificate of Analysis, when stored properly

Laboratory Procedures

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

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of proxyphylline can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of proxyphylline in PBS, pH 7.2, is approximately 1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Proxyphylline is a methylxanthine derivative that has bronchodilatory actions.\(^1\) It has also been reported to have vasodilatory and cardiac stimulatory effects.\(^2\) Proxyphylline selectively antagonizes A\(_1\) adenosine receptors (K\(_i\) = 82 nM for bovine brain) versus A\(_2\) adenosine receptors (K\(_i\) = 850 µM for platelets).\(^3\) Proxyphylline has been mixed with *Melilotus* extract to generate a theo-esberiven product, which can have cardiovascular and anti-allodynia effects in mammals.\(^2,4\)

References