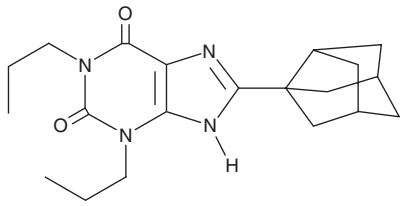
PRODUCT INFORMATION

KW 3902

Item No. 11940

CAS Registry No.: 136199-02-5
Formal Name: 8-(hexahydro-2,5-methanopentalen-3a(1H)-yl)-3,9-dihydro-1,3-dipropyl-1H-purine-2,6-dione
Synonyms: MK-7418, Rolofylline
MF: $C_{20}H_{28}N_4O_2$
FW: 356.5
Purity: ≥98%
UV/Vis.: λ_{max}: 277 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

KW 3902 is supplied as a crystalline solid. A stock solution may be made by dissolving the KW 3902 in the solvent of choice. KW 3902 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of KW 3902 in ethanol is approximately 0.5 mg/ml and approximately 20 mg/ml in DMSO and DMF.

KW 3902 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, KW 3902 should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. KW 3902 has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

KW 3902 is an antagonist of the adenosine A_1 receptor (K_i = 0.19 nM).[1,2] It displays 890-fold selectivity for A_1 receptors over A_{2A} receptors and has no activity at A_3 receptors. KW 3902 less potently inhibits human organic anion transporter 1 (OAT1; K_i = 7.82 µM).[3] KW 3902 exhibits renal protective effects during hypoxemia in rabbits.[4]

References

1. Shimada, J., Suzuki, F., Nonaka, H., *et al.* 8-Polycycloalkyl-1,3-dipropylxanthines as potent and selective antagonists for A1-adenosine receptors. *J. Med. Chem.* **35(5)**, 924-930 (1992).
2. Nonaka, H., Ichimura, M., Takeda, M., *et al.* KW-3902, a selective high affinity antagonist for adenosine A_1 receptors. *Br. J. Pharmacol.* **117(8)**, 1645-1652 (1996).
3. Takeda, M., Narikawa, S., Hosoyamada, M., *et al.* Characterization of organic anion transport inhibitors using cells stably expressing human organic anion transporters. *Eur. J. Pharmacol.* **419(2-3)**, 113-120 (2001).
4. Nishiyama, A., Miyatake, A., Aki, Y., *et al.* Adenosine A_1 receptor antagonist KW-3902 prevents hypoxia-induced renal vasoconstriction. *J. Pharmacol. Exp. Ther.* **291(3)**, 988-993 (1999).

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