

Product Data Sheet

Product Name: Oxipurinol

Cat. No.: GC10827

Chemical Properties

Cas. No. 2465-59-0

Chemical Name 1H-pyrazolo[3,4-d]pyrimidine-4,6(5H,7H)-dione

SMILES O=C1C2=C(NN=C2)NC(N1)=O

Formula $C_5H_4N_4O_2$

M.Wt 152.1

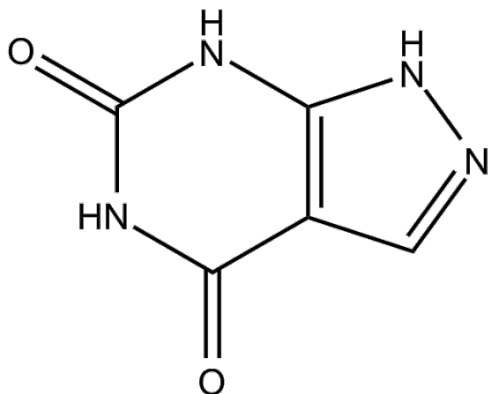
Solubility $\leq 3\text{mg/ml}$ in DMSO

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

Oxipurinol is a xanthine oxidoreductase inhibitor.

Xanthine oxidoreductase (XO), a complex molybdoflavoenzyme present in milk and many other tissues, has been studied for many years. XO is generally recognized as a critical enzyme in purine catabolism.

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

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In vitro: Allopurinol could be rapidly oxidized by XO to its active metabolite oxypurinol (both isosteres of hypoxanthine and xanthine, respectively), which also could inhibit XO. Oxypurinol was identified as a noncompetitive inhibitor of XO; the formation of this compound was reported to be responsible for much of the pharmacological activity of allopurinol. Moreover, both allopurinol and oxypurinol showed free radical scavenging effects in isolated hearts, and exerted cardioprotective effects despite no detectable XO activities [1].

In vivo: Animal study found that in the vasculature of hypercholesterolemic rabbits, oxypurinol treatment led to a decrease in vascular free radical production [1].

Clinical trial: The PK parameters of oxypurinol in subjects with normal renal function were found to be $t_{(1/2)}$ of 23.3 $\pm$ 6.0 hours, CL/F of 0.31 $\pm$ 0.07 mL/min/kg, V(d)/F of 0.59 $\pm$ 0.16 L/kg, and renal clearance relative to creatinine clearance. Oxypurinol has been found to be cleared almost entirely by urinary excretion and, thus the dosage of allopurinol should be reduced in renal impairment [2].

References:

- [1] P. Pacher, A. Nivorozhkin and C. Szabó. Therapeutic effects of xanthine oxidase inhibitors: Renaissance half a century after the discovery of allopurinol. *Pharmacological Reviews* 58(1), 87-114 (2006).
- [2] Day RO, Graham GG, Hicks M, McLachlan AJ, Stocker SL, Williams KM. Clinical pharmacokinetics and pharmacodynamics of allopurinol and oxypurinol. *Clin Pharmacokinet.* 2007;46(8):623-44.

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