

Product Data Sheet

Product Name: 6-Formylpterin

Cat. No.: GC42578

Chemical Properties

Cas. No. 712-30-1

SMILES O=C1C2=C(N=CC(C=O)=N2)N=C(N)N1

Formula C₇H₅N₅O₂

M.Wt 191.1

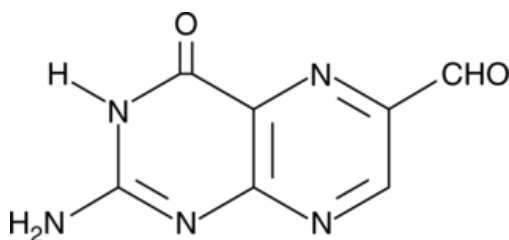
Solubility Soluble in DMSO

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

Xanthine oxidase (XO) generates reactive oxygen species, including hydrogen peroxide (H₂O₂), as it oxidizes specific substrates in the presence of water and oxygen. 6-Formylpterin is an oxidized pterin produced by photolytic breakdown of folic acid. It binds to one of two active sites on XO nearly quantitatively and irreversibly and prevents the metabolism of other substrates at the second site, resulting in "hetero-substrate" inhibition at nanomolar concentrations. However, 6-formylpterin itself is converted by XO to 6-carboxylpterin and H₂O₂ and the turnover rate of this reaction can actually be accelerated by prior binding of a hetero-substrate to XO. In this way, 6-formylpterin acts as an intracellular generator of H₂O₂ in cells expressing XO, altering cellular function.

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

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