
Product Data Sheet

Product Name: Guanfu base A

Cat. No.: GC64448

Chemical Properties

Cas. No. 1394-48-5

Formula C₂₄H₃₁NO₆

M.Wt 429.51

Solubility DMSO : 100 mg/mL (232.82 mM; Need ultrasonic)

Storage 4°C, away from moisture and light

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**

Guanfu base A is an antiarrhythmic alkaloid isolated from Aconitum coreanum and is a potent noncompetitive CYP2D6 inhibitor, with a K_i of 1.20 μ M in human liver microsomes (HLMs) and a K_i of 0.37 μ M for the human recombinant form (rCYP2D6). Guanfu base A is also a potent competitive inhibitor of CYP2D in monkey (K_i of 0.38 μ M) and dog (K_i of 2.4 μ M) microsomes[1]. Guanfu base A also inhibits HERG channel current[2].

Guanfu base A has no inhibitory activity on mouse or rat CYP2Ds. Guanfu base A does not exhibit any inhibition activity on human recombinant CYP1A2, 2A6, 2C8, 2C19, 3A4, or 3A5, but shows slight inhibition of 2B6 and 2E1[1]. Guanfu base A is a potent inhibitor of CYP2D6, with an IC_{50} recorded at \sim 0.46 μ M in HLM (Dextromethorphan 5 μ M) and 0.12 μ M in rCYP2D6 (Bufuralol 5 μ M)[1]. The effects of Guanfu base A is investigated in human embryonic kidney 293 (HEK293) cells transiently transfected with HERG complementary DNA using a whole-cell patch clamp technique. Guanfu base A inhibits HERG channel current in concentration-, voltage-, and time-dependent manners with an IC_{50} of 1.64 mM. Guanfu base A shifts the activation curve in a negative direction and accelerated channel inactivation but shows no effect on the inactivation curve[2].

Beagle dogs treated intravenously with Dextromethorphan (2 mg/mL) after pretreatment

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

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with Guanfu base A injection shows reduced CYP2D metabolic activity, with the Cmax of dextrorphan being one-third that of the saline-treated group and area under the plasma concentration-time curve half that of the saline-treated group[1].

[1]. Sun J, et al. Guanfu base A, an antiarrhythmic alkaloid of Aconitum coreanum, Is a CYP2D6 inhibitor of human, monkey, and dog isoforms. Drug Metab Dispos. 2015 May;43(5):713-24.

[2]. Huang X, et al. Comparative effects of Guanfu base A and Guanfu base G on HERG K+ channel. J Cardiovasc Pharmacol. 2012 Jan;59(1):77-83.

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