

Product Data Sheet

Product Name: FBPase-IN-1

Cat. No.: GC70977

Chemical Properties

Cas. No. 20362-54-3

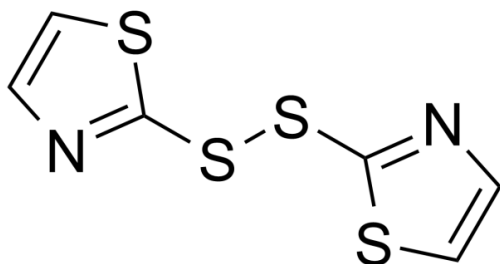
Formula $C_6H_4N_2S_4$ M.Wt 232.37

Solubility DMSO : 50 mg/mL (215.17 mM; Storage 4°C, stored under nitrogen
Need ultrasonic; Hygroscopic DMSO
has a significant impact on the
solubility of product, please use
newly opened DMSO)

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

FBPase-IN-1 is a potent FBPase (Fructose-1,6-bisphosphatase) inhibitor for Type 2 diabetes (T2D) study with an IC₅₀ of 0.22 μM. FBPase-IN-1 can reduce blood glucose levels and ameliorate glucose tolerance. FBPase-IN-1 modifies the C128 site, regulates the N125-S124-S123 allosteric pathway of FBPase and affects the catalytic activity of FBPase.

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

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FBPase-IN-1 (compound 3a) (1.5625-200 μ M, 48 hours) shows a low cytotoxicity with an **IC₅₀** of 75.06 μ M^[1].

FBPase-IN-1 (0-45 min) inhibits FBPase in a time-dependent manner, with **IC₅₀** decreasing from 0.28 to 0.09 μ M, shows FBPase-IN-1 is an irreversible covalent inhibitor of FBPase^[1].

FBPase-IN-1 (12 h-fasted ICR mouse, n = 6, male, 25 mg/kg, IP) shows good FBPase inhibitory activity (**IC₅₀** = 0.22 μ M), satisfying glucose-lowering effect *in vivo* (54% reduction in blood glucose at 25 mg/kg)^[1].

FBPase-IN-1 (6 or 7 weeks, ICR mice, n = 6, male, 25 mg/kg, IP for 4 hours, once) reduces blood glucose levels by targeting FBPase and inhibiting the GNG process^[1].

References:

[1]. Xu YX, Huang YY, Song RR, et al. Development of disulfide-derived fructose-1,6-bisphosphatase (FBPase) covalent inhibitors for the treatment of type 2 diabetes. *Eur J Med Chem.* 2020; 203: 112500.

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