Product Data Sheet

Product Name: T3Inh-1
Cat. No.: GC68443

Chemical Properties

Cas. No.	50440-30-7		
Formula	$C_{27}H_{20}N_6O_3$	M.Wt	476.49
Solubility	DMSO : 31.25 mg/mL (65.58 mM; ultrasonic and warming and heat to 60°C)	Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ 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	T3Inh-1		

Background

T3Inh-1 is a potent and selective inhibitor of **ppGalNAc-T3** (**IC_{50}**=7 μM). T3Inh-1 reduces FGF23 hormone levels in both tissue cells and mice, without causing any toxic side effects. T3Inh-1 also prevents breast cancer cells. The enzyme ppGalNAc-T3 is implicated in at least two medically important pathways: cancer metastasis and stabilization of FGF23 (regulates phosphate levels in the bloodstream)[1].

T3Inh-1 (5 μM; 24-48 hours; 5 μM; MDA-MB231 cells) is strikingly effective, inhibiting migration by >80% and invasion by 98% while causing no discernable effect on cell proliferation[1].

T3Inh-1 exhibits no toxicity and did not affect HEK cell proliferation[1].

T3Inh-1 (HEK cells; 6 hours)increases cleavage of FGF23[1].

T3Inh-1 (25 or 50 mg/kg; i.p.) blocks ppGalNAc-T3-mediated glycan-masking of FGF23 thereby increasing its cleavage[1].

Animal Model: Wild-type C57BL/6 six to eight week old mice[1]

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Dosage:	25 or 50 mg/kg
Administration:	Intraperitoneal injection (Dissolved in DMSO at 25 and 50 mg/ml then further diluted with PEG400 to create 5 and 10 mg/ml stocks for injection)
Result:	Caused a robust and statistically significant increase the ratio of cleaved/intact FGF23 at the tested 25 and 50 mg/kg concentrations.

[1]. Song L, et al. Inhibitor of ppGalNAc-T3-mediated O-glycosylation blocks cancer cell invasiveness and lowers FGF23 levels. Elife. 2017;6:e24051. Published 2017 Mar 31.

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