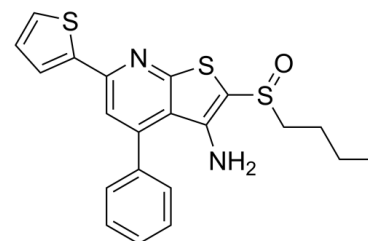


Data Sheet

Product Name:	SW033291
Cat. No.:	CS-4513
CAS No.:	459147-39-8
Molecular Formula:	C ₂₁ H ₂₀ N ₂ OS ₃
Molecular Weight:	412.59
Target:	15-PGDH
Pathway:	Metabolic Enzyme/Protease
Solubility:	Ethanol : 25 mg/mL (60.59 mM; Need ultrasonic); DMSO : 33.33 mg/mL (80.78 mM; ultrasonic and warming and heat to 70°C)



BIOLOGICAL ACTIVITY:

SW033291 is a potent and high-affinity inhibitor of **15-PGDH** with a K_i of 0.1 nM. SW033291 increases prostaglandin PGE2 levels in bone marrow and other tissues. SW033291 also promotes tissue regeneration^[1]. IC50 & Target: K_i : 0.1 nM (15-PGDH)^[1] *In Vitro*: Treating cells with SW033291 decreases cellular 15-PGDH enzyme activity by 85%. SW033291 inhibition of 15-PGDH was non-competitive versus PGE2 over concentrations up to 40 μ M PGE2. Treatment of A549 cells with SW033291 increases PGE2 levels by 3.5-fold at 500 nM, with an **EC₅₀** 50 at approximately 75 nM^[1]. *In Vivo*: SW033291 (10 mg/kg; intraperitoneal injection; twice daily; for 3 days; C57BL/6J mice) treatment for three consecutive days shows significant benefits, including a doubling of peripheral neutrophil counts, a 65% increase in marrow SKL cells, and a 71% increase in marrow SLAM cells^[1].

PROTOCOL (Extracted from published papers and Only for reference)

Enzyme assay [1] For initial characterization of inhibition of 15-PGDH enzyme activity by SW033291, reactions were assembled with experiment specific concentrations of 15-PGDH enzyme, and experiment specific concentrations of SW033291, plus 150 μ M NAD(+) and 25 μ M PGE2 in reaction buffer (50 mM Tris-HCl, pH7.5, 0.01% Tween 20). The reaction mix was incubated for 15 min at 25 °C in an Envision Reader (PerkinElmer). Enzyme activity was determined by following generation of NADH as assayed by recording fluorescence at Ex/Em=340 nM/485 nM every 30s for 3 minutes, commencing immediately after addition of PGE2 (43). IC50 values were calculated with GraphPad Prism 5 software using the sigmoidal dose-response function and plotted against SW033291 concentration. The linear increase in IC50 value with increasing enzyme concentration indicated a tightbinding inhibition with the dependence on 15-PGDH:SW033291 stoichiometry rather than absolute SW033291 concentration.

References:

[1]. Zhang Y, et al. TISSUE REGENERATION. Inhibition of the prostaglandin-degrading enzyme 15-PGDH potentiates tissue regeneration. Science. 2015 Jun 12;348(6240):aaa2340.

CAIndexNames:

Thieno[2,3-b]pyridin-3-amine, 2-(butylsulfinyl)-4-phenyl-6-(2-thienyl)-

SMILES:

NC1=C(S(CCCC)=O)SC2=NC(C3=CC=CS3)=CC(C4=CC=CC=C4)=C21

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

Tel: 610-426-3128

Fax: 888-484-5008

E-mail: sales@ChemScene.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA