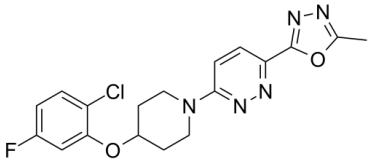
Data Sheet

Product Name:	CAY10566
Cat. No.:	CS-8077
CAS No.:	944808-88-2
Molecular Formula:	C18H17ClFN5O2
Molecular Weight:	389.81
Target:	Stearoyl-CoA Desaturase (SCD)
Pathway:	Metabolic Enzyme/Protease
Solubility:	DMSO : 25 mg/mL (64.13 mM; Need ultrasonic)



BIOLOGICAL ACTIVITY:

CAY10566 is a potent, orally bioavailable and selective **stearoyl-CoA desaturase1** (**SCD1**) inhibitor with **IC_{50}**s of 4.5 and 26 nM in mouse and human enzymatic assays, respectively. CAY10566 also shows excellent cellular activity in blocking the conversion of saturated long-chain fatty acid-CoAs (LCFA-CoAs) to monounsaturated LCFA-CoAs in HepG2 cells (IC_{50}=7.9 nM or 6.8 nM)[1][2]. IC50 & Target: IC50: 4.5 nM (SCD1 in mouse), 26 nM (SCD1 in human)[2] **In Vitro:** CAY10566 (0.0001-10 μM; 24 hours) concentration-dependently decreases Swiss 3T3 cell proliferation[3]. **In Vivo:** After establishment of palpable tumors, the mice are treated with vehicle or SCD1 inhibitor (2.5 mg/kg CAY10566 orally twice daily). The effect of SCD1 inhibition on the Akt-driven tumors is greater than on the Ras-driven tumors, with the mean tumor volume at day 13 or 14 post therapy, relative to untreated tumors, 0.5±0.04 and 0.67±0.05 respectively (P=0.01 for Ras-Akt comparison, by two-tailed t test)[4].

PROTOCOL (Extracted from published papers and Only for reference)

Cell Assay: [1]MOVAS-1 cells treated with CAY10566 are incubated with 200 μM stearate-BSA complex containing 1 μCi ^{14}C-stearate. Total lipids are saponified with 3 M sodium hydroxide/ethanol. The saponified fatty acids are separated by 10% silver nitrate-coated thin-layer chromatography. The ratio of the cpm in the band corresponding to oleic acid to the cpm in the band corresponding to stearate is used to calculate stearoyl-CoA desaturase (SCD) activity as previously described[1]. **Animal Administration:** [2]To generate allografts, 1×10^7 immortalized baby mouse kidney (iBMK) cells are implanted in Matrigel into nu/nu athymic female mice. After establishment of palpable tumors, mice are randomized to receive 2.5 mg/kg CAY10566 orally twice daily in 0.5% methylcellulose or vehicle control. Xenograft tumors are measured biweekly and tumor volume calculated as volume=(length×width^2×π)/6[2].

References:

[1]. Masuda M, et al. Activating transcription factor 4 regulates stearate-induced vascular calcification. J Lipid Res. 2012 Aug;53(8):1543-52.

[2]. Liu G, et al. Discovery of potent, selective, orally bioavailable stearoyl-CoA desaturase 1 inhibitors. J Med Chem. 2007 Jun 28;50(13):3086-100.

[3]. Koeberle A, et al. Palmitoleate is a mitogen, formed upon stimulation with growth factors, and converted to palmitoleoyl-phosphatidylinositol. J Biol Chem. 2012 Aug 3;287(32):27244-54.

[4]. Kamphorst JJ, et al. Hypoxic and Ras-transformed cells support growth by scavenging unsaturated fatty acids from lysophospholipids. Proc Natl Acad Sci U S A. 2013 May 28;110(22):8882-7.

CAIndexNames:

Pyridazine, 3-[4-(2-chloro-5-fluorophenoxy)-1-piperidinyl]-6-(5-methyl-1,3,4-oxadiazol-2-yl)-

SMILES:

CC1=NN=C(C2=NN=C(N3CCC(OC4=CC(F)=CC=C4Cl)CC3)C=C2)O1

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

Tel: 732-484-9848 Fax: 888-484-5008 E-mail: sales@ChemScene.com

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