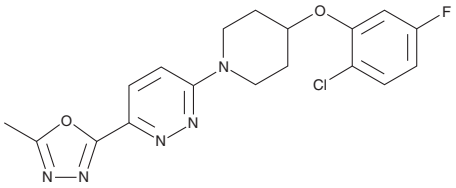
PRODUCT INFORMATION

CAY10566

Item No. 10012562

CAS Registry No.:	944808-88-2
Formal Name:	3-[4-(2-chloro-5-fluorophenoxy)-1-piperidinyl]-6-(5-methyl-1,3,4-oxadiazol-2-yl)-pyridazine
MF:	$C_{18}H_{17}ClFN_5O_2$
FW:	389.8
Purity:	≥98%
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

CAY10566 is supplied as a crystalline solid. A stock solution may be made by dissolving the CAY10566 in the solvent of choice, which should be purged with an inert gas. CAY10566 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of CAY10566 in these solvents is approximately 0.15, 10, and 20 mg/ml, respectively.

CAY10566 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, CAY10566 should first be dissolved in DMF and then diluted with the aqueous buffer of choice. CAY10566 has a solubility of approximately 0.15 mg/ml in a 1:5 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Stearoyl-CoA desaturase (SCD) catalyzes the committed step of the conversion of saturated, long-chain fatty acids to monounsaturated fatty acids. The SCD1 gene is thought to play a key role in lipid homeostasis and body weight regulation.[1-3] Thus, modulating SCD1 activity pharmacologically may be a useful tool for regulating type 2 diabetes, dyslipidemia, and obesity. CAY10566 is a potent and selective inhibitor of SCD1 that demonstrates IC_{50} values of 4.5 and 26 nM in mouse and human enzymatic assays, respectively.[4] This compound inhibits the conversion of saturated, long-chain fatty acyl-CoAs to monounsaturated, long-chain fatty acyl-CoAs in HepG2 cells with IC_{50} values of 7.9 and 6.8 nM, respectively, when heptadecanoic acid and palmitic acid are used as the substrate.[4]

References

1. Cohen, P., Miyazaki, M., Socci, N.D., *et al.* Role for stearoyl-CoA desaturase-1 in leptin-mediated weight loss. *Science* **297**, 240-243 (2002).
2. Dobrzyn, P., Sampath, H., Dobrzyn, A., *et al.* Loss of stearoyl-CoA desaturase 1 inhibits fatty acid oxidation and increases glucose utilization in the heart. *Am. J. Physiol. Endocrinol. Metab.* **294**, E357-E364 (2008).
3. Miyazaki, M., Flowers, M.T., Sampath, H., *et al.* Hepatic stearoyl-CoA desaturase-1 deficiency protects mice from carbohydrate-induced adiposity and hepatic steatosis. *Cell Metabolism* **6**, 484-496 (2007).
4. Liu, G., Lynch, J.K., Freeman, J., *et al.* Discovery of potent, selective, orally bioavailable stearoyl-CoA desaturase 1 inhibitors. *J. Med. Chem.* **50**, 3086-3100 (2007).

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