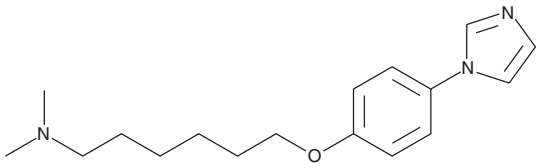
PRODUCT INFORMATION

CAY10434

Item No. 10005067

CAS Registry No.: 769917-29-5
Formal Name: 6-[4-(1H-imidazol-1-yl)phenoxy]-N,N-dimethyl-1-hexanamine
MF: $C_{17}H_{25}N_3O$
FW: 287.4
Purity: ≥98%
Stability: ≥1 year at -20°C
Supplied as: A solution in ethanol
UV/Vis.: λ_{max}: 203, 242 nm



Laboratory Procedures

For long term storage, we suggest that CAY10434 be stored as supplied at -20°C. It should be stable for at least one year.

CAY10434 is supplied as a solution in ethanol. To change the solvent, simply evaporate the ethanol under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as DMSO and dimethyl formamide (DMF) purged with an inert gas can be used. The solubility of CAY10434 in this solvent is approximately 12 mg/ml.

CAY10434 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, the ethanolic solution of CAY10434 should be diluted with the aqueous buffer of choice. CAY10434 has a solubility of approximately 0.2 mg/ml in a 1:3 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

20-HETE is an important metabolite of arachidonic acid in the vasculature, especially in the kidney, where it is synthesized by cytochrome P450 (CYP450) enzymes of the 4A family.[1,2] Alkylaryl imidazoles have been previously shown to inhibit certain CYP450 enzymes, including the CYP4A enzymes associated with 20-HETE synthesis.[3] CAY10434 is a selective inhibitor of the 20-HETE synthase CYP4A11 exhibiting an IC_{50} value of 8.8 nM when tested in human renal microsomes.[4] CAY10434 is nearly 200 times less potent as an inhibitor of 1A, 1C, and 3A CYP450 enzymes.

References

1. Harder, D.R., Lange, A.R., Gebremedhin, D., *et al.* Cytochrome P450 metabolites of arachidonic acid as intracellular signaling molecules in vascular tissue. *J. Vasc. Res.* **34**, 237-243 (1997).
2. Imig, J.D., Zou, A.P., Stec, D.E., *et al.* Formation and actions of 20-hydroxyeicosatetraenoic acid in rat renal arterioles. *Am. J. Physiol.* **270**, R217-R227 (1996).
3. Nakamura, T., Sato, M., Kakinuma, H., *et al.* Pyrazole and isoxazole derivatives as new, potent, and selective 20-hydroxy-5,8,11,14-eicosatetraenoic acid synthase inhibitors. *J. Med. Chem.* **46**, 5416-5427 (2003).
4. Nakamura, T., Kakinuma, H., Umemiya, H., *et al.* Imidazole derivatives as new potent and selective 20-HETE synthase inhibitor. *Bioorg. Medicinal Chem. Letters* **14**, 333-336 (2004).

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