

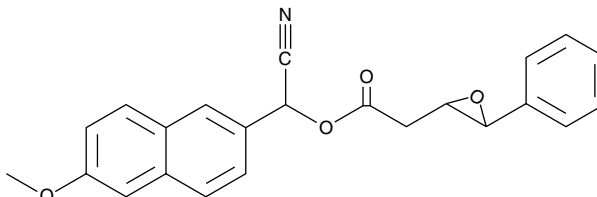
Product Information



PHOME

Item No. 10009134

CAS Registry No.: 1028430-42-3
Formal Name: 3-phenyl-cyano(6-methoxy-2-naphthalenyl)methyl ester-2-oxiraneacetic acid
MF: $C_{23}H_{19}NO_4$
FW: 373.4
Purity: $\geq 98\%$
Stability: ≥ 2 years at -20°C
Supplied as: A crystalline solid
UV/Vis.: λ_{max} : 234 nm
Note: This substrate should only be used with the pure EH.



Laboratory Procedures

For long term storage, we suggest that PHOME be stored as supplied at -20°C . It should be stable for at least two years.

PHOME is supplied as a crystalline solid. A stock solution may be made by dissolving the PHOME in an organic solvent purged with an inert gas. PHOME is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of PHOME in these solvents is approximately 10 mg/ml.

If aqueous stock solutions are required for biological experiments, they can best be prepared by diluting the organic solvent into aqueous buffers or isotonic saline. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

EpETrE metabolites of arachidonic acid such as 11(12)-EpETrE and 14(15)-EpETrE have been identified as endothelium derived hyperpolarizing factors with vasodilator activity.¹ Soluble epoxide hydrolase (sEH) catalyzes the conversion of EpETrEs to the corresponding DiHETrEs thereby diminishing their activity.² Inhibitors of sEH may therefore have clinical utility for treating hypertension and systemic inflammation.^{3,4} PHOME is a fluorogenic substrate for human sEH which displays good aqueous stability and solubility making it ideal for high throughput screening (HTS) programs. Hydrolysis of the substrate yields a highly fluorescent product that can be monitored at excitation and emission wavelengths of 330 and 465 nm, respectively. This fluorescent assay has a sensitivity that is 100 times greater than previously used spectrophotometric assays.⁵

Note: If this substrate is used with crude enzyme preparations it is critical that all esterase activity is removed or inhibited, such as with organophosphate or a trifluoroketone inhibitor, and that glutathione is depleted and/or glutathione S-transferase is inhibited.

References

1. Fleming, I. Cytochrome P450 epoxigenases as EDHF synthase(s). *Pharmacol. Res.* **49**, 525-533 (2004).
2. Morisseau, C., Goodrow, M.H., Newman, J.W., *et al.* Structural refinement of inhibitors of urea-based soluble epoxide hydrolases. *Biochem. Pharmacol.* **63**, 1599-1608 (2002).
3. Imig, J.D., Zhao, X., Zaharis, C.Z., *et al.* An orally active epoxide hydrolase inhibitor lowers blood pressure and provides renal protection in salt-sensitive hypertension. *Hypertension* **46**(2), 975-981 (2005).
4. Schmelzer, K.R., Kubala, L., Newman, J.W., *et al.* Soluble epoxide hydrolase is a therapeutic target for acute inflammation. *Proc. Natl. Acad. Sci. USA* **102**(28), 9772-9777 (2005).
5. Wolf, N.M., Morisseau, C., Jones, P.D., *et al.* Development of a high-throughput screen for soluble epoxide hydrolase inhibition. *Anal. Biochem.* **355**, 71-80 (2006).

Related Products

For a list of related products please visit: www.caymanchem.com/catalog/10009134

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY; NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

MATERIAL SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Material Safety Data Sheet, which has been sent via email to your institution.

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