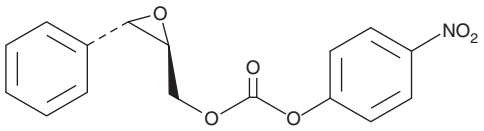
PRODUCT INFORMATION

S-NEPC

Item No. 10008609

CAS Registry No.:	147349-28-8
Formal Name:	4-nitrophenyl-2S,3S-epoxy-3 phenylpropyl carbonate
MF:	$C_{16}H_{13}NO_6$
FW:	315.3
Purity:	≥98%
UV/Vis.:	λ_{max}: 213, 266 nm
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

S-NEPC is supplied as a crystalline solid. A stock solution may be made by dissolving the S-NEPC in the solvent of choice, which should be purged with an inert gas. S-NEPC is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of S-NEPC in ethanol is approximately 2 mg/ml and approximately 30 mg/ml in DMSO and DMF.

S-NEPC is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, S-NEPC should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. S-NEPC has a solubility of approximately 0.15 mg/ml in a 1:2 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Cytochrome P450 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] S-NEPC is a colorimetric substrate used to measure sEH activity. It also is a substrate for Glutathione S-transferase, microsomal epoxide hydrolase and porcine liver carboxylesterase. Hydrolysis of S-NEPC by sEH yields 4-nitrophenol which can be quantified spectrophotometrically at 405 nm. S-NEPC is adaptable for use in 96-well microwell plate readers.

References

1. Fleming, I. Cytochrome P450 epoxygenases as EDHF synthase(s). *Pharmacol. Res.* **49(6)**, 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(9)**, 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).

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