

Product Data Sheet

Product Name: (S)-Mephénytoin

Cat. No.: GC14486

Chemical Properties

Cas. No. 70989-04-7

Chemical Name (5S)-5-ethyl-3-methyl-5-phenyl-2,4-imidazolidinedione

SMILES O=C1[C@@](C2=CC=CC=C2)(CC)NC(N1C)=O

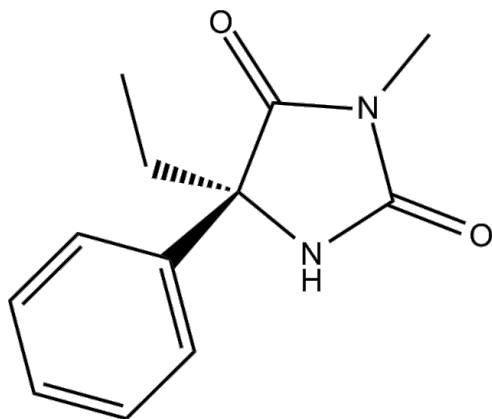
Formula $C_{12}H_{14}N_2O_2$ M.Wt 218.3

Solubility 15mg/ml in ethanol;25mg/ml in DMSO;25mg/ml in dimethyl formamide Storage Store at -20°C

General tips For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.

Structure



Background

(S)-Mephénytoin, a racemic form of Mephénytoin, which is metabolized by N-demethylation and 4-

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

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hydroxylation^[1]. (S)-Mephenytoin, as a selective probe substrate of CYP2C19, is used in cell models to evaluate CYP2C19 inhibitors^[2]. (S)-Mephenytoin is commonly used as a model compound to study the catalytic kinetics of CYP isoenzymes^[3]. (S)-Mephenytoin has been widely used as an internal standard to optimize the parameters of gas chromatography for the efficient identification of relevant compounds in urine samples^[4].

References:

- [1] Zhou H H. CYP2C19 genotype determines enzyme activity and inducibility of S-mephenytoin hydroxylase[J]. Clinica chimica acta, 2001, 313(1-2): 203-208.
- [2] Collier, Somogyi, Bochner. Comparison of (S)-mephenytoin and proguanil oxidation in vitro: contribution of several CYP isoforms[J]. British journal of clinical pharmacology, 1999, 48(2): 158-167.
- [3] Yasumori T, Chen L, Nagata K, et al. Species differences in stereoselective metabolism of mephenytoin by cytochrome P450 (CYP2C and CYP3A)[J]. The Journal of pharmacology and experimental therapeutics, 1993, 264(1): 89-94.
- [4] Tamminga W J, Wemer J, Oosterhuis B, et al. Mephenytoin as a probe for CYP2C19 phenotyping: effect of sample storage, intra-individual reproducibility and occurrence of adverse events[J]. British journal of clinical pharmacology, 2001, 51(5): 471-474.

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