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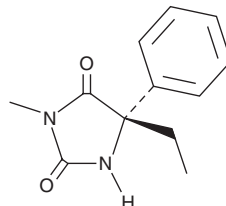
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PRODUCT INFORMATION

(S)-Mephenytoin

Item No. 11913

CAS Registry No.: 70989-04-7
Formal Name: (5S)-5-ethyl-3-methyl-5-phenyl-2,4-imidazolidinedione
Synonyms: (+)-Mephenytoin, (S)-5-ethyl-3-methyl-5-Phenylhydantoin
MF: C₁₂H₁₄N₂O₂
FW: 218.3
Purity: ≥98%
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥2 years



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

Laboratory Procedures

(S)-Mephenytoin is supplied as a crystalline solid. A stock solution may be made by dissolving the (S)-mephenytoin in the solvent of choice. (S)-Mephenytoin is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of (S)-mephenytoin in ethanol is approximately 15 mg/ml and approximately 25 mg/ml in DMSO and DMF.

(S)-Mephenytoin is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, (S)-mephenytoin should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. (S)-Mephenytoin has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

(S)-Mephenytoin is a substrate of the cytochrome P450 (CYP) isoform CYP2C19, also known as mephenytoin 4-hydroxylase.¹ CYP2C19 metabolizes a variety of therapeutic agents, including omeprazole, proguanil, diazepam, propranolol, citalopram, imipramine, and certain barbiturates.² Genetic defects in CYP2C19 result in poor metabolism of these compounds, and (S)-mephenytoin can be used to screen for such mutations by assaying its metabolites in urine.²⁻⁴ (S)-Mephenytoin has anticonvulsant activities.⁵

References

1. Shimada, T., Misono, K.S., and Guengerich, F.P. Human liver microsomal cytochrome P-450 mephenytoin 4-hydroxylase, a prototype of genetic polymorphism in oxidative drug metabolism. *J. Biol. Chem.* **261**(2), 909-921 (1986).
2. Ferguson, R.J., de Moraes, S.M., Benhamou, S., *et al.* A new genetic defect in human CYP2C19: Mutation of the initiation codon is responsible for poor metabolism of S-mephenytoin. *J. Pharmacol. Exp. Ther.* **284**(1), 356-361 (1998).
3. Ozawa, S., Soyama, A., Saeki, M., *et al.* Ethnic differences in genetic polymorphisms of CYP2D6, CYP2C19, CYP3A5 and MDR1/ABCB1. *Drug Metab. Pharmacokinet.* **19**(2), 83-95 (2004).
4. Guttendorf, R.J., Britto, M., Blouin, R.A., *et al.* Rapid screening for polymorphisms in dextromethorphan and mephenytoin metabolism. *Br. J. Clin. Pharmacol.* **29**(4), 373-380 (1990).
5. Wong, P.T.H., Tan, S.-F., and Lee, H.-S. N-demethylation of methyl and dimethyl derivatives of phenytoin and their anticonvulsant activities in mice. *Jpn. J. Pharmacol.* **48**(4), 473-478 (1988).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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