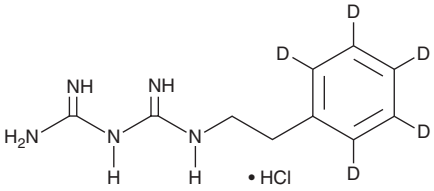
PRODUCT INFORMATION

Phenformin-d_5 (hydrochloride)

Item No. 36341

Formal Name:	N-[2-(phenyl-2,3,4,5,6-d_5)ethyl]-imidodicarbonimidic diamide, monohydrochloride
MF:	$C_{10}H_{10}D_5N_5 \bullet HCl$
FW:	246.8
Chemical Purity:	≥98% (Phenformin)
Deuterium Incorporation:	≥99% deuterated forms (d_1-d_5); ≤1% d_0
Supplied as:	A 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

Phenformin-d_5 (hydrochloride) is intended for use as an internal standard for the quantification of phenformin by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated *versus* unlabeled).

Phenformin-d_5 (hydrochloride) is supplied as a solid. A stock solution may be made by dissolving the phenformin-d_5 (hydrochloride) in the solvent of choice, which should be purged with an inert gas. Phenformin-d_5 (hydrochloride) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of phenformin-d_5 (hydrochloride) in ethanol is approximately 10 mg/ml and approximately 33 mg/ml in DMSO and DMF.

Description

Phenformin is an antihyperglycemic biguanide.[1] It reduces blood glucose levels in a mouse model of diabetes induced by alloxan (Item No. 9002196) when administered at a dose of 100 mg/kg. Phenformin (250 mg/kg) induces lactic acidosis in diabetic dogs.[2] It also inhibits tumor growth of MCF-7 and MDA-MB-231 breast cancer mouse xenograft models when administered at a dose of 300 mg/kg.[3] Formulations containing phenformin were previously used in the treatment of diabetes mellitus.

References

1. Li, W.-L., Wu, J.-L., Ren, B.-R., *et al.* Pharmacological studies on anti-hyperglycemic effect of folium eriobotryae. *Am. J. Chin. Med.* **35(4)**, 705-711 (2007).
2. Arieff, A.I., Park, R., Leach, W.J., *et al.* Pathophysiology of experimental lactic acidosis in dogs. *Am. J. Physiol.* **239(2)**, F135-F142 (1980).
3. Appleyard, M.V.C.L., Murray, K.E., Coates, P.J., *et al.* Phenformin as prophylaxis and therapy in breast cancer xenografts. *Br. J. Cancer* **106(6)**, 1117-1122 (2012).

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