

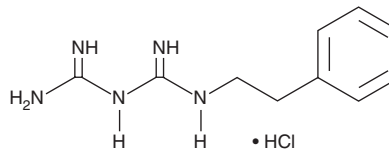
PRODUCT INFORMATION



Phenformin (hydrochloride)

Item No. 14997

CAS Registry No.: 834-28-6
Formal Name: N-(2-phenylethyl)-imidodicarbonimidic diamide, monohydrochloride
MF: C₁₀H₁₅N₅ • HCl
FW: 241.7
Purity: ≥98%
UV/Vis.: λ_{max}: 236 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

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

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of phenformin (hydrochloride) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of phenformin (hydrochloride) in PBS (pH 7.2) is approximately 5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

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).

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.

WARRANTY AND LIMITATION OF REMEDY

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