

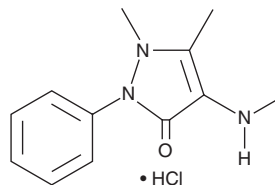
PRODUCT INFORMATION



4-Methylaminoantipyrine (hydrochloride)

Item No. 31612

CAS Registry No.: 856307-27-2
Formal Name: 1,2-dihydro-1,5-dimethyl-4-(methylamino)-2-phenyl-3H-pyrazol-3-one, monohydrochloride
Synonym: Metamizole Impurity C
MF: C₁₂H₁₅N₃O • HCl
FW: 253.7
Purity: ≥95%
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

4-Methylaminoantipyrine (hydrochloride) is supplied as a solid. A stock solution may be made by dissolving the 4-methylaminoantipyrine (hydrochloride) in water. We do not recommend storing the aqueous solution for more than one day.

Description

4-Methylaminoantipyrine is a major active metabolite of the non-opioid prodrug metamizole (Item No. 15771).¹ It is formed from metamizole by non-enzymatic hydrolysis in the gastrointestinal tract.² 4-Methylaminoantipyrine (0.1 mM) inhibits production of prostaglandin E₂ (PGE₂; Item No. 14010) induced by the calcium ionophore A23187 (Item Nos. 11016 | 22030) in isolated mouse peritoneal macrophages.³ It increases the paw withdrawal threshold in a rat model of carrageenan-induced hyperalgesia when administered at a dose of 160 µg/paw.⁴ 4-Methylaminoantipyrine (60, 90, and 120 mg/kg) reduces LPS-induced pyrexia in rats.⁵ It is also a potential impurity found in commercial preparations of metamizole.⁶

References

1. Rogosch, T., Sinning, C., Podlewski, A., *et al.* Novel bioactive metabolites of dipyron (metamizol). *Bioorg. Med. Chem.* **20(1)**, 101-107 (2012).
2. Nikolova, I., Tencheva, J., Voynikov, Y., *et al.* Metamizole: A review profile of a well-known “forgotten” drug. Part I: Pharmaceutical and nonclinical profile. *Biotechnol. Biotechnol. Equip.* **26(6)**, 3329-3337 (2012).
3. Brune, K., Aehringhaus, U., and Peskar, B.A. Pharmacological control of leukotriene and prostaglandin production from mouse peritoneal macrophages. *Agents Actions* **14(5-6)**, 729-734 (1984).
4. Gonçalves Dos Santos, G., Vieira, W.F., Vendramini, P.H., *et al.* Dipyron is locally hydrolyzed to 4-methylaminoantipyrine and its antihyperalgesic effect depends on CB₂ and κ-opioid receptors activation. *Eur. J. Pharmacol.* **874**, 173005 (2020).
5. Malvar, D.d.C., Aguiar, F.A., Vaz Ade, L., *et al.* Dipyron metabolite 4-MAA induces hypothermia and inhibits PGE₂-dependent and -independent fever while 4-AA only blocks PGE₂-dependent fever. *Br. J. Pharmacol.* **171(15)**, 3666-3679 (2014).
6. Vieira, J.C., Sversut, R.A., Maciel, I.T., *et al.* HPLC-DAD method for simultaneous determination of dipyron (metamizole) and caffeine in tablets and identification of major degradation product by direct infusion ESI-MS. *Chromatographia* **80(3)**, 489-495 (2017).

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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