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PRODUCT INFORMATION



Metamizole-d₃ (sodium salt)

Item No. 26496

Formal Name: ((1,5-dimethyl-3-oxo-2-phenyl-2,3-dihydro-1H-pyrazol-4-yl)(methyl-d₃)amino) methanesulfonate, monosodium salt

Synonym: Dipyrone-d₃

MF: C₁₃H₁₃D₃N₃O₄S • Na

FW: 336.4

Chemical Purity: ≥98% (Metamizole)

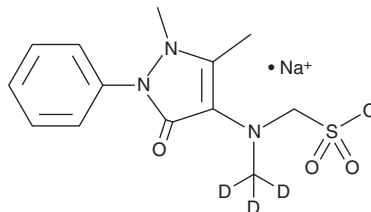
Deuterium

Incorporation: ≥99% deuterated forms (d₁-d₃); ≤1% d₀

Supplied as: A 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

Metamizole-d₃ (sodium salt) is intended for use as an internal standard for the quantification of metamizole (Item No. 15771) 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).

Metamizole-d₃ (sodium salt) is supplied as a solid. A stock solution may be made by dissolving the metamizole-d₃ (sodium salt) in the solvent of choice. Metamizole-d₃ (sodium salt) is soluble in organic solvents such as DMSO and methanol, which should be purged with an inert gas.

Description

Metamizole is a nonopioid prodrug that is rapidly hydrolyzed to the analgesic and antipyretic metabolites 4-methylaminoantipyrine (MAA) and 4-aminoantipyrine (AA).¹ It inhibits COX-1 and COX-2 activity (IC₅₀ = ~150 µg/ml for both in cell-free assays), as well as reduces increases in intracellular calcium levels induced by the TRPA1 agonist AITC in isolated rat and mouse dorsal root ganglia and IMR-90 human fibroblasts (IC₅₀s = 30-91 µM in patch-clamp assays).^{2,3} Metamizole (6, 12, and 25 µg/ml) inhibits ADP- and epinephrine-induced platelet aggregation in human platelet-rich plasma (hPRP).⁴ It prevents fever induced by LPS, TNF-α, and IL-6, but not arachidonic acid (Item Nos. 90010 | 90010.1 | 10006607) or prostaglandin E₂ (PGE₂; Item No. 14010), in rats when administered at a dose of 120 mg/kg.⁵ Metamizole (250 and 500 mg/kg) increases the paw withdrawal threshold in the paw pressure test, indicating analgesic activity, in rat models of carrageenan-induced acute pain and postoperative incision pain.⁶

References

1. Rogosch, T., Sinning, C., Podlewski, A., et al. *Bioorg. Med. Chem.* **20**(1), 101-107 (2012).
2. Campos, C., de Gregorio, R., García-Nieto, R., et al. *Eur. J. Pharmacol.* **378**(3), 339-347 (1999).
3. Nassini, R., Fusi, C., Materazzi, S., et al. *Br. J. Pharmacol.* **172**(13), 3397-3411 (2015).
4. Papp, J., Sandor, B., Vamos, Z., et al. *Clin. Hemorheol. Microcirc.* **56**(1), 1-12 (2014).
5. De Souza, G.E.P., Cardoso, R.A., Melo, M.C.C., et al. *Inflamm. Res.* **51**(1), 24-32 (2002).
6. Ince, I., Aksoy, M., Ahiskalioglu, A., et al. *J. Invest. Surg.* **28**(3), 173-180 (2015).

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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