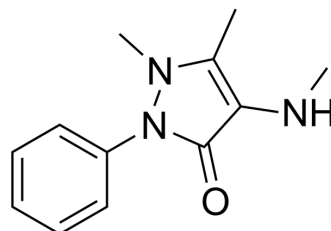


## 4-Methylamino antipyrine

<b>Cat. No.:</b>	HY-135731		
<b>CAS No.:</b>	519-98-2		
<b>Molecular Formula:</b>	C <sub>12</sub> H <sub>15</sub> N <sub>3</sub> O		
<b>Molecular Weight:</b>	217.27		
<b>Target:</b>	COX; Drug Metabolite		
<b>Pathway:</b>	Immunology/Inflammation; Metabolic Enzyme/Protease		
<b>Storage:</b>	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



### SOLVENT & SOLUBILITY

<b>In Vitro</b>	DMSO : 50 mg/mL (230.13 mM; Need ultrasonic)				
		Solvent Concentration	Mass 1 mg	5 mg	10 mg
	<b>Preparing Stock Solutions</b>	1 mM	4.6026 mL	23.0128 mL	46.0257 mL
		5 mM	0.9205 mL	4.6026 mL	9.2051 mL
10 mM		0.4603 mL	2.3013 mL	4.6026 mL	
Please refer to the solubility information to select the appropriate solvent.					
<b>In Vivo</b>	<ol style="list-style-type: none"> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 40% PEG300 &gt;&gt; 5% Tween-80 &gt;&gt; 45% saline Solubility: ≥ 2.5 mg/mL (11.51 mM); Clear solution</li> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.5 mg/mL (11.51 mM); Clear solution</li> </ol>				

### BIOLOGICAL ACTIVITY

<b>Description</b>	4-Methylamino antipyrine is an active metabolite of Metamizole. Metamizole is a pyrazolone non-steroidal anti-inflammatory drug (NSAID) and inhibits COX. Metamizole is a nonopioid analgesic agent and can be used for pain and fever [1][2][3]. 4-Methylamino antipyrine has analgesic, antipyretic, and relatively weak antiinflammatory properties[2].
<b>IC<sub>50</sub> &amp; Target</b>	COX[2][3]
<b>In Vitro</b>	Metamizole is a prodrug which, at room temperature and in an atmosphere with oxygen, is spontaneously, nonenzymatically converted to 4-Methylamino antipyrine. Subsequently, the N-methyl side chain of 4-Methylamino antipyrine is oxidized to yield 4-formylaminoantipyrine, which is further converted to 4-aminoantipyrine. Metamizole in aqueous solution and in the presence of oxygen consists of a group of several pyrazolone derivatives of which 4-

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Methylamino antipyrine is pharmacologically the most important<sup>[2]</sup>.

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

**In Vivo**

The aim of this study is to assess the pharmacokinetics of its active metabolites 4-Methylamino antipyrine in male piglets after a single intramuscular injection of Metamizole. Eight healthy male piglets are administered Metamizole (100 mg/kg) intramuscularly. 4-Methylamino antipyrine plasma concentrations are quantitatively detectable from 0.25 to 48 h. The average maximum concentrations of 4-Methylamino antipyrine is of 47.59 mg/mL. The average half-lives is 8.57 h for 4-Methylamino antipyrine<sup>[1]</sup>.

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

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## REFERENCES

[1]. Burmańczuk A, et al. Pharmacokinetic investigations of the marker active metabolites 4-methylamino-antipyrine and 4-amino-antipyrine after intramuscular injection of metamizole in healthy piglets. *J Vet Pharmacol Ther.* 2016 Dec;39(6):616-620.

[2]. Ariza A, et al. Pyrazolones metabolites are relevant for identifying selective anaphylaxis to metamizole. *Sci Rep.* 2016 Mar 31;6:23845.

[3]. Campos C1, et al. Regulation of cyclooxygenase activity by metamizol. *Eur J Pharmacol.* 1999 Aug 13;378(3):339-47.

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**Caution: Product has not been fully validated for medical applications. For research use only.**

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