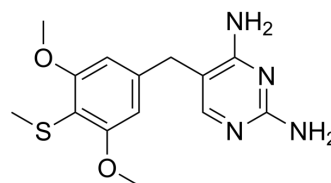


Metioprim

Cat. No.:	HY-122289
CAS No.:	68902-57-8
Molecular Formula:	C ₁₄ H ₁₈ N ₄ O ₂ S
Molecular Weight:	306.38
Target:	Dihydrofolate reductase (DHFR); Bacterial
Pathway:	Metabolic Enzyme/Protease; Anti-infection
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Metioprim is a competitive inhibitor of bacterial Dihydrofolate reductase (DHFR). Metioprim has inhibitory activity against anaerobic bacteria. Metioprim shows synergistic activity in combination with DDS (HY-B0688) against E. coli. and various mycobacteria ^{[1][2]} .																																										
In Vitro	Metioprim inhibits some anaerobic bacteria species with an average MIC value of 3.2 µg/mL ^[1] . Metioprim (0-1.0 µM; 0-8 h) suppresses bacterial growth kinetics, and inhibits E. coli with an MIC value of 0.7 µg/mL ^[2] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.																																										
In Vivo	<p>Metioprim (5 mg/kg or 10 mg/kg; i.v.; single dose) has a shorter elimination half-life in goat than in pig (23 min vs 169 min), and its main metabolites are methionine sulfoxide and methoxysulfonic acid^[3].</p> <p>Pharmacokinetic Analysis^[1]</p> <table border="1"> <thead> <tr> <th>Animal</th> <th>Route</th> <th>Dose (mg/kg)</th> <th>C₀ (µg/mL)</th> <th>A (µg/mL)</th> <th>α (1/min)</th> <th>t_{1/2α} (min)</th> <th>B (µg/mL)</th> <th>β (1/min)</th> <th>t_{1/2β} (min)</th> <th>V_C (1/kg)</th> <th>V_P (1/kg)</th> <th>V_{d,ss} (1/kg)</th> <th>Cl_β (mL/min/kg)</th> </tr> </thead> <tbody> <tr> <td>Pigs</td> <td>i.v.</td> <td>5</td> <td>3.6</td> <td>2.1</td> <td>0.032</td> <td>25</td> <td>1.5</td> <td>0.00415</td> <td>169</td> <td>1.45</td> <td>0.74</td> <td>2.19</td> <td>10.0</td> </tr> <tr> <td>Goats</td> <td>i.v.</td> <td>10</td> <td>12.2</td> <td>6.4</td> <td>0.220</td> <td>4</td> <td>5.6</td> <td>0.03138</td> <td>23</td> <td>0.85</td> <td>0.44</td> <td>1.28</td> <td>49</td> </tr> </tbody> </table> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>	Animal	Route	Dose (mg/kg)	C ₀ (µg/mL)	A (µg/mL)	α (1/min)	t _{1/2α} (min)	B (µg/mL)	β (1/min)	t _{1/2β} (min)	V _C (1/kg)	V _P (1/kg)	V _{d,ss} (1/kg)	Cl _β (mL/min/kg)	Pigs	i.v.	5	3.6	2.1	0.032	25	1.5	0.00415	169	1.45	0.74	2.19	10.0	Goats	i.v.	10	12.2	6.4	0.220	4	5.6	0.03138	23	0.85	0.44	1.28	49
Animal	Route	Dose (mg/kg)	C ₀ (µg/mL)	A (µg/mL)	α (1/min)	t _{1/2α} (min)	B (µg/mL)	β (1/min)	t _{1/2β} (min)	V _C (1/kg)	V _P (1/kg)	V _{d,ss} (1/kg)	Cl _β (mL/min/kg)																														
Pigs	i.v.	5	3.6	2.1	0.032	25	1.5	0.00415	169	1.45	0.74	2.19	10.0																														
Goats	i.v.	10	12.2	6.4	0.220	4	5.6	0.03138	23	0.85	0.44	1.28	49																														

REFERENCES

- [1]. Wüst J, et al. Activity of brodimoprim and metioprim alone and in combination with sulfonamides against anaerobic bacteria. *Antimicrob Agents Chemother.* 1983 Mar;23(3):490-2.
- [2]. Seydel JK, et al. Bacterial growth kinetics of Escherichia coli and mycobacteria in the presence of brodimoprim and metioprim alone and in combination with sulfamerazine and dapsone (VI). *Chemotherapy.* 1983;29(4):249-61.
- [3]. Nielsen P, et al. Pharmacokinetics and metabolism of metioprim in pigs and goats. *Pharmacol Toxicol.* 1987 Nov;61(5):330-4.

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

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA