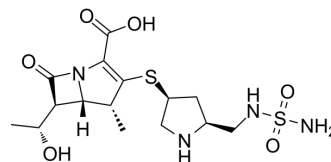


Doripenem

Cat. No.:	HY-B0187	
CAS No.:	148016-81-3	
Molecular Formula:	C ₁₅ H ₂₄ N ₄ O ₆ S ₂	
Molecular Weight:	420.5	
Target:	Bacterial; Antibiotic	
Pathway:	Anti-infection	
Storage:	Powder	-20°C 3 years
	In solvent	-80°C 6 months
		-20°C 1 month



BIOLOGICAL ACTIVITY

Description	Doripenem (S 4661), a 1β-methyl parenteral carbapenem, has very broad-spectrum activity against Gram-positive and Gram-negative aerobic bacteria ^{[1][2]} .																																
IC₅₀ & Target	β-lactam																																
In Vivo	<p>Doripenem (S 4661; MIC range of 2 to 16 µg/ml; Subcutaneous; 1-h and 4-h infusion; 0.2 ml injections) monohydrate demonstrates antibacterial killing for <i>P. aeruginosa</i>^[1].</p> <p>Doripenem (10, 50, 150 mg/kg; 0.2-ml volumes; subcutaneously 2 h) has a T_{1/2} of 0.41 hours, a CL of 673.9 mL/h•kg for mice with 10 mg/kg^[1].</p> <p>Pharmacokinetic Parameters of Doripenem in mice^[1].</p> <table border="1"> <thead> <tr> <th></th> <th>SC (10 mg/kg)</th> <th>SC (50 mg/kg)</th> <th>SC (150 mg/kg)</th> </tr> </thead> <tbody> <tr> <td>T_{max} (h)</td> <td>0.25</td> <td>0.38</td> <td>0.22</td> </tr> <tr> <td>C_{max} (µg/mL)</td> <td>16.3</td> <td>59.7</td> <td>194.4</td> </tr> <tr> <td>AUC₀₋₂₄ (ng•h/mL)</td> <td>13.5</td> <td>62.4</td> <td>168</td> </tr> <tr> <td>t_{1/2} (h)</td> <td>0.41</td> <td>0.34</td> <td>0.44</td> </tr> <tr> <td>CL (mL/h/kg)</td> <td>673.9</td> <td>783.3</td> <td>850.5</td> </tr> <tr> <td>V (mL/kg)</td> <td>400.7</td> <td>384.7</td> <td>545.8</td> </tr> </tbody> </table> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <table border="1"> <tr> <td>Animal Model:</td> <td>Specific-pathogen-free, female ICR mice weighing approximately 25 g with <i>P. aeruginosa</i>-infected thighs^[1]</td> </tr> </table>				SC (10 mg/kg)	SC (50 mg/kg)	SC (150 mg/kg)	T _{max} (h)	0.25	0.38	0.22	C _{max} (µg/mL)	16.3	59.7	194.4	AUC ₀₋₂₄ (ng•h/mL)	13.5	62.4	168	t _{1/2} (h)	0.41	0.34	0.44	CL (mL/h/kg)	673.9	783.3	850.5	V (mL/kg)	400.7	384.7	545.8	Animal Model:	Specific-pathogen-free, female ICR mice weighing approximately 25 g with <i>P. aeruginosa</i> -infected thighs ^[1]
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Dosage:	MIC range of 2 to 16 µg/ml
Administration:	Subcutaneous; 1-h and 4-h infusion; 0.2 ml injections
Result:	Demonstrated antibacterial killing for P. aeruginosa.

CUSTOMER VALIDATION

- Antimicrob Agents Chemother. 2023 May 18;e0160322.
- Antimicrob Agents Chemother. 2018 May 25;62(6). pii: e00282-18.
- Microbiol Spectr. 2023 Apr 24;e0069223.
- Microbiol Spectr. 2022 Dec 8;e0303822.
- Biomed Res Int. 2018 Jul 2;2018:3579832.

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REFERENCES

- [1]. Aryun Kim, et al. In vivo pharmacodynamic profiling of doripenem against Pseudomonas aeruginosa by simulating human exposures. Antimicrob Agents Chemother. 2008 Jul;52(7):2497-502.
- [2]. Jones RN, et al. Doripenem (S-4661), a novel carbapenem: comparative activity against contemporary pathogens including bactericidal action and preliminary in vitro methods evaluations. J Antimicrob Chemother. 2004 Jul;54(1):144-54. Epub 2004 Jun 9.

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

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