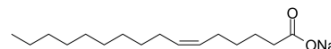


## Sapienic acid sodium

<b>Cat. No.:</b>	HY-130187A		
<b>CAS No.:</b>	217477-25-3		
<b>Molecular Formula:</b>	C <sub>16</sub> H <sub>29</sub> NaO <sub>2</sub>		
<b>Molecular Weight:</b>	276.39		
<b>Target:</b>	Bacterial		
<b>Pathway:</b>	Anti-infection		
<b>Storage:</b>	Pure form	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



### SOLVENT & SOLUBILITY

<b>In Vitro</b>	Ethanol : 33.33 mg/mL (120.59 mM; Need ultrasonic)			
		Solvent Concentration	Mass	
			1 mg	5 mg
	<b>Preparing Stock Solutions</b>		10 mg	
	<b>1 mM</b>	3.6181 mL	18.0904 mL	36.1808 mL
	<b>5 mM</b>	0.7236 mL	3.6181 mL	7.2362 mL
	<b>10 mM</b>	0.3618 mL	1.8090 mL	3.6181 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% EtOH &gt;&gt; 40% PEG300 &gt;&gt; 5% Tween-80 &gt;&gt; 45% saline Solubility: ≥ 2.5 mg/mL (9.05 mM); Clear solution</li> <li>Add each solvent one by one: 10% EtOH &gt;&gt; 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.5 mg/mL (9.05 mM); Clear solution</li> <li>Add each solvent one by one: 10% EtOH &gt;&gt; 90% corn oil Solubility: ≥ 2.5 mg/mL (9.05 mM); Clear solution</li> </ol>			

### BIOLOGICAL ACTIVITY

<b>Description</b>	Sapienic acid sodium is a fatty acid commonly found on the skin and in mucosa. Sapienic acid sodium has variable antimicrobial activities against Gram-positive and Gram-negative bacteria found on the skin and in the oral cavity. Sapienic acid sodium is active against <i>Streptococcus sanguinis</i> , <i>Streptococcus mitis</i> and <i>Fusobacterium nucleatum</i> with MBC values of 31.3 µg/mL, 375.0 µg/mL and 93.8 µg/mL, respectively <sup>[1]</sup> .
<b>IC<sub>50</sub> &amp; Target</b>	MBC: 31.3 µg/mL ( <i>Streptococcus sanguinis</i> ), 375.0 µg/mL ( <i>Streptococcus mitis</i> ) and 93.8 µg/mL ( <i>Fusobacterium nucleatum</i> ) [1]

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## In Vitro

Sapienic acid (minimum bactericidal concentrations (MBCs) range, 31.3 to 375.0 µg/mL) is active against *Streptococcus sanguinis*, *Streptococcus mitis*, and *Fusobacterium nucleatum* but not active against *Escherichia coli*, *Staphylococcus aureus*, *S. marcescens*, *P. aeruginosa*, *Corynebacterium bovis*, *Corynebacterium striatum*, and *Corynebacterium jeikeium* (MBC > 500 µg/mL). Kinetic assays show that killing of *S. sanguinis* and *S. mitis* with sapienic acid is gradual and occurred within 24 h<sup>[1]</sup>.

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

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## REFERENCES

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[1]. Fischer CL, et al. Antibacterial activity of sphingoid bases and fatty acids against Gram-positive and Gram-negative bacteria. *Antimicrob Agents Chemother.* 2012 Mar;56(3):1157-61.

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

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