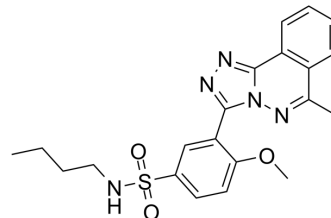


## Lu AE98134

<b>Cat. No.:</b>	HY-133910		
<b>CAS No.:</b>	849000-18-6		
<b>Molecular Formula:</b>	C <sub>21</sub> H <sub>23</sub> N <sub>5</sub> O <sub>3</sub> S		
<b>Molecular Weight:</b>	425.5		
<b>Target:</b>	Sodium Channel		
<b>Pathway:</b>	Membrane Transporter/Ion Channel		
<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 : 250 mg/mL (587.54 mM; Need ultrasonic)				
		Solvent Concentration	Mass 1 mg	5 mg	10 mg
	<b>Preparing Stock Solutions</b>	1 mM	2.3502 mL	11.7509 mL	23.5018 mL
		5 mM	0.4700 mL	2.3502 mL	4.7004 mL
10 mM		0.2350 mL	1.1751 mL	2.3502 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: ≥ 2.08 mg/mL (4.89 mM); Clear solution</li> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 90% corn oil Solubility: ≥ 2.08 mg/mL (4.89 mM); Clear solution</li> </ol>				

### BIOLOGICAL ACTIVITY

<b>Description</b>	Lu AE98134, an activator of voltage-gated sodium channels, acts as a partly selective Na <sub>v</sub> 1.1 channels positive modulator. Lu AE98134 also increases the activity of Na <sub>v</sub> 1.2 and Na <sub>v</sub> 1.5 channels but not of Na <sub>v</sub> 1.4, Na <sub>v</sub> 1.6 and Na <sub>v</sub> 1.7 channels. Lu AE98134 can be used to analyze pathophysiological functions of the Na <sub>v</sub> 1.1 channel in various central nervous system diseases, including cognitive restoring in schizophrenia, et al <sup>[1]</sup> .
<b>In Vitro</b>	Lu AE98134 (30 μM) promotes the current mediated by Nav <sub>v</sub> 1.1 channel, and it activates Na <sub>v</sub> 1.5 and to a lesser extent Na <sub>v</sub> 1.2 but has no effect on Na <sub>v</sub> 1.4, Na <sub>v</sub> 1.6 and Na <sub>v</sub> 1.7 currents in HEK cells expressing Na <sub>v</sub> 1.1, Na <sub>v</sub> 1.2, Na <sub>v</sub> 1.6, Na <sub>v</sub> 1.5, and Na <sub>v</sub> 1.7 by step-wise depolarizing voltages using the whole-cell patchclamp configuration <sup>[1]</sup> . Lu AE98134 (30 μM) increases the excitability of FSINs by decreasing the threshold for action potentials. Intracellular depolarizing current pulses evokes repetitive firing of action potentials at frequencies, additionally, Lu AE98134 increases

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	<p>the excitability since each current pulse generated a higher number of spikes (163 spikes in control; and 230 spikes in Lu AE98134)<sup>[1]</sup>.</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>
<b>In Vivo</b>	<p>The fast spiking inhibitory interneurons (FSINs) from <i>Dlx5/6<sup>+/-</sup></i> animals exhibit abnormal excitability because of a more depolarized spike threshold and broader action potentials.</p> <p>Lu AE98134 (30 <math>\mu</math>M) increases the excitability of FSINs neurons from normal and <i>Dlx5/6<sup>+/-</sup></i> animals by modulating several parameters characteristic for <math>\text{NaV}_{1.1}</math> channels. The selective activation of FSINs by Lu AE98134 restores cognitive flexibility in adult <i>Dlx5/6<sup>+/-</sup></i> mice<sup>[1]</sup>.</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>

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## REFERENCES

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[1]. Nadia Lybøl von Schoubye, et al. The sodium channel activator Lu AE98134 normalizes the altered firing properties of fast spiking interneurons in *Dlx5/6 +/-* mice. *Neurosci Lett*. 2018 Jan 1;662:29-35.

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

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