Lu AE98134

Cat. No.: HY-133910

CAS No.: 849000-18-6

Molecular Formula: $C_{21}H_{23}N_5O_3S$

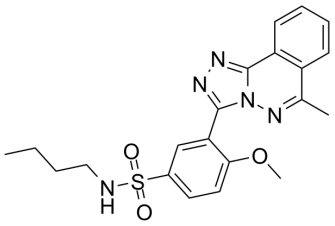
Molecular Weight: 425.5

Target: Sodium Channel

Pathway: Membrane Transporter/Ion Channel

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	2 years
	-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : 250 mg/mL (587.54 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	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.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.08 mg/mL (4.89 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (4.89 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Lu AE98134, an activator of voltage-gated sodium channels, acts as a partly selective $Na_v1.1$ channels positive modulator. Lu AE98134 also increases the activity of $Na_v1.2$ and $Na_v1.5$ channels but not of $Na_v1.4$, $Na_v1.6$ and $Na_v1.7$ channels. Lu AE98134 can be used to analyze pathophysiological functions of the $Na_v1.1$ channel in various central nervous system diseases, including cognitive restoring in schizophrenia, et al[1].

In Vitro

Lu AE98134 (30 μM) promotes the current mediated by $Nav_v1.1$ channel, and it activates $Na_v1.5$ and to a lesser extent $Na_v1.2$ but has no effect on $Na_v1.4$, $Na_v1.6$ and $Na_v1.7$ currents in HEK cells expressing $Na_v1.1$, $Na_v1.2$, $Na_v1.6$, $Na_v1.5$, and $Na_v1.7$ by step-wise depolarizing voltages using the whole-cell patchclamp configuration[1].
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

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

REFERENCES

[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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