AER-271

Cat. No.: HY-115460

CAS No.: 634913-39-6

Molecular Formula: $C_{15}H_9ClF_6NO_5P$

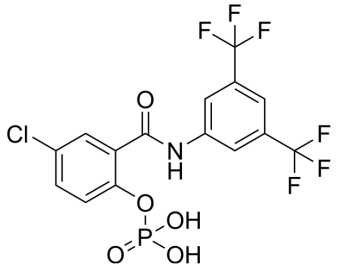
Molecular Weight: 463.65

Target: Aquaporin

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 : 125 mg/mL (269.60 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.1568 mL	10.7840 mL	21.5680 mL
	5 mM	0.4314 mL	2.1568 mL	4.3136 mL
	10 mM	0.2157 mL	1.0784 mL	2.1568 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 (4.49 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (4.49 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

AER-271, a phosphonate proagent derivative of AER-270, is an aquaporin-4 (AQP4) inhibitor for the research of acute ischemic stroke[1].

IC_{50} & Target

Aquaporin-4 (AQP4)[1]

In Vivo

AER-271 is converted in vivo to AER-270 by endogenous phosphatases. AER-271 blocks acute cerebral edema and improves early outcome in a pediatric model of asphyxial cardiac arrest[1].

AER-271 reduces cerebral edema and improves neurological outcomes in rodent ischemic stroke models. Mice treated with AER-271 (5 mg/kg; i.p. injection) show improved outcomes and reduced cerebral edema in a model of ischemic stroke[2].

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

Animal Model:	Male mice (C57BL/6J, 8-12 week-old, 25-30 g)[2]
Dosage:	5 mg/kg
Administration:	Treated by i.p. injection
Result:	Had better outcomes with an average neurological score of 0.89±0.31 compared with control mice receiving vehicle had an average neurological score of 2.50±0.62.

REFERENCES

[1]. Wallisch JS, et al. The aquaporin-4 inhibitor AER-271 blocks acute cerebral edema and improves early outcome in a pediatric model of asphyxial cardiac arrest. Pediatr Res. 2019 Mar;85(4):511-517.

[2]. Farr GW, et al. Functionalized Phenylbenzamides Inhibit Aquaporin-4 Reducing Cerebral Edema and Improving Outcome in Two Models of CNS Injury. Neuroscience. 2019 Apr 15;404:484-498.

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