PPQ-102

Cat. No.: HY-14179

CAS No.: 931706-15-9

Molecular Formula: $C_{26}H_{22}N_4O_3$

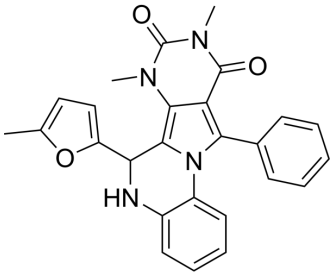
Molecular Weight: 438.48

Target: CFTR

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 : 50 mg/mL (114.03 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.2806 mL	11.4030 mL	22.8061 mL
	5 mM	0.4561 mL	2.2806 mL	4.5612 mL
	10 mM	0.2281 mL	1.1403 mL	2.2806 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: 2.5 mg/mL (5.70 mM); Clear solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (5.70 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

PPQ-102 (CFTR Inhibitor) is a reversible CFTR inhibitor that completely inhibits CFTR chloride currents (IC_{50} ~90 nM). PPQ-102 is not affected by membrane potential-dependent cell allocation or blocking efficiency (uncharged at physiological pH) and effectively prevents cyst enlargement in polycystic kidney disease[1].

IC_{50} & Target

IC50: ~90 nM (CFTR)[1].

In Vitro

PPQ-102 (0, 0.5, 5μM, 4 days) prevents and reverses renal cyst expansion in an embryonic kidney organ culture model of PKD [1].

PPQ-102 (0, 0.5, 5μM, 3 days) shows ability of reducing fluid accumulation in preformed cysts[1].

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

Cell Viability Assay[1]

Cell Line:	E13.5 embryonic kidneys (embryonic kidney organ culture model of PKD)
Concentration:	0, 0.5, 5 μM
Incubation Time:	3 or 4 days
Result:	Remarkablyreduced the number and size of renal cysts formed in the 8-Br-cAMP-containing medium (showed ⊠60% inhibition of cyst formation at 0.5 μM, near complete absence of cysts at 2.5 and 5 μM). Remarkable reduced cyst size over 1 and 2 days in the 8-Br-cAMP-containing medium.

CUSTOMER VALIDATION

- Drug Resist Updat. 2023 Aug 21;71:101005.
- J Funct Foods. 2023 Sep, 108, 105730.

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REFERENCES

[1]. Tradtrantip L, et al. Nanomolar potency pyrimido-pyrrolo-quinoxalinedione CFTR inhibitor reduces cyst size in a polycystic kidney disease model. J Med Chem. 2009 Oct 22;52(20):6447-55.

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