ZQ-16

Cat. No.: HY-124571

CAS No.: 376616-73-8

Molecular Formula: $C_{10}H_{16}N_2O_2S$

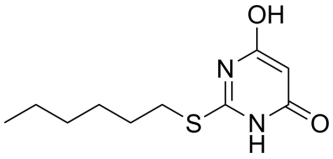
Molecular Weight: 228.31

Target: GPR84

Pathway: GPCR/G Protein

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 25 mg/mL (109.50 mM; ultrasonic and warming and heat to 60°C)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	4.3800 mL	21.9000 mL	43.8001 mL
	5 mM	0.8760 mL	4.3800 mL	8.7600 mL
	10 mM	0.4380 mL	2.1900 mL	4.3800 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 (10.95 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (10.95 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (10.95 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

ZQ-16 is a potent and selective GPR84 agonist with an EC_{50} value of 0.213 μM. ZQ-16 has no activity on the other free fatty acid receptors (FFARs), including GPR40, GPR41, GPR119 and GPR120[1].

In Vitro

ZQ-16 induces calcium response in a dose-dependent manner, with an EC_{50} value of 0.213 μM[1].
ZQ-16 also induces dose-dependent reduction of Forskolin-stimulated cAMP accumulation in HEK293 cells expressing GPR84 with an EC_{50} value of 0.134 μM[1].
ZQ-16 (10 μM; 5 min) also induces phosphorylation of ERK1/2 in GPR84-expressing HEK293 cells[1].

ZQ-16 induces GPR84 desensitization, internalization, and β-arrestin2 recruitment. ZQ-16 induced a dose-dependent recruitment of β-Arrestin2 towards GPR84 in HEK293 cells expressing both proteins with an EC_{50} value of 0.597 μM[1].

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

Western Blot Analysis[1]

Cell Line:	HEK293 cells
Concentration:	10 μM
Incubation Time:	5 min
Result:	Induced phosphorylation of ERK1/2.

REFERENCES

[1]. Qing Zhang, et al. Discovery and Characterization of a Novel Small-Molecule Agonist for Medium-Chain Free Fatty Acid Receptor G Protein-Coupled Receptor 84. J Pharmacol Exp Ther. 2016 May;357(2):337-44.

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