Gap19 TFA

Cat. No.: HY-P1136A

Molecular Formula: $C_{57}H_{97}F_3N_{14}O_{15}$

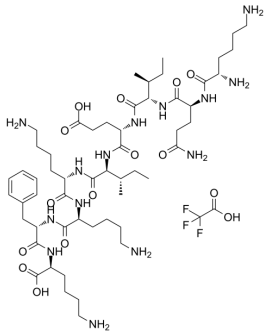
Molecular Weight: 1275.46

Sequence Shortening: KQIEIKKFK

Target: Gap Junction Protein

Pathway: Cytoskeleton

Storage: Sealed storage, away from moisture
Powder -80°C 2 years
-20°C 1 year
* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (78.40 mM; Need ultrasonic)
H_2O : 100 mg/mL (78.40 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	0.7840 mL	3.9202 mL	7.8403 mL
	5 mM	0.1568 mL	0.7840 mL	1.5681 mL
	10 mM	0.0784 mL	0.3920 mL	0.7840 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: PBS
Solubility: 100 mg/mL (78.40 mM); Clear solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description

Gap19 TFA, a peptide derived from nine amino acids of the Cx43 cytoplasmic loop (CL), is a potent and selective connexin 43 (Cx43) hemichannel blocker. Gap19 TFA inhibits hemichannels caused by preventing intramolecular interactions of the C-terminus (CT) with the CL. Gap19 TFA is not blocking GJ channels or Cx40/pannexin-1 hemichannels. Gap19 TFA has protective effects against myocardial[1][2].

IC_{50} & Target

Cx43 Hemichannel[1]

In Vitro

Gap19 TFA (250 μM; for 30 min) decreases mitochondrial potassium uptake[1].
Gap19 TFA (400 μM) inhibits unitary hemichannel currents in HeLa-Cx43 cells[2].
Gap19 TFA (100 μM) inhibits hemichannel unitary currents in ventricular cardiomyocytes[2].
Gap19 TFA (250 μM, 30 min) protects against myocardial ischemia/reperfusion injury in vitro and in vivo[2].

	MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Gap19 TFA (iv; 25 mg/kg; 10 min before ligation) significantly reduces the infarct size by approximately one-fifth[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	C57/BL6 mice[2]
Dosage:	25 mg/kg
Administration:	IV; 10 min before ligation
Result:	Significantly reduced the infarct size by approximately one-fifth.

CUSTOMER VALIDATION

- Research Square Print. 2022 Aug.

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REFERENCES

[1]. Boengler K, et al. Connexin 43 impacts on mitochondrial potassium uptake. Front Pharmacol. 2013 Jun 6;4:73.

[2]. Wang N, et al. Selective inhibition of Cx43 hemichannels by Gap19 and its impact on myocardial ischemia/reperfusion injury. Basic Res Cardiol. 2013 Jan;108(1):309.

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