Pep2m, myristoylated TFA

Cat. No.: HY-P1399A

Molecular Formula: $C_{65}H_{119}F_3N_{18}O_{16}S$

Molecular Weight: 1497.83

Sequence Shortening: {Myr}-KRMKVAKNAQ

Target: PKC

Pathway: Epigenetics; TGF-beta/Smad

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)

{Myr}-KRMKVAKNAQ (TFA salt)

SOLVENT & SOLUBILITY

In Vitro

DMSO : 33.33 mg/mL (22.25 mM; Need ultrasonic)
H_2O : 3.33 mg/mL (2.22 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	0.6676 mL	3.3382 mL	6.6763 mL
5 mM	0.1335 mL	0.6676 mL	1.3353 mL
10 mM	0.0668 mL	0.3338 mL	0.6676 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (1.67 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (1.67 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Pep2m, myristoylated TFA (Myr-Pep2m TFA) is a cell-permeable peptide. Pep2m, myristoylated TFA can disrupt the protein kinase ζ (PKMζ) downstream targets, N-ethylmaleimide-sensitive factor/glutamate receptor subunit 2 (NSF/GluR2) interactions. PKMζ is an autonomously active isozyme of protein kinase C (PKC)[1][2].

IC_{50} & Target

NSF/GluR2 interactions[1]

In Vitro

Pep2m, myristoylated TFA (10 μM) blocks PKMζ-mediated AMPA receptor (AMPAR) potentiation[1].
Pep2m, myristoylated TFA does not block the increase of PKMζ in the hippocampal slices during long-term potentiation (LTP) maintenance, indicating that blocking NSF/GluR2 interactions do not prevent the induction of PKMζ synthesis[1].

	Pep2m, myristoylated TFA blocks NSF/GluR2-mediated AMPAR trafficking, and reverses persistent potentiation at both the strongly stimulates synapses and the weakly stimulats synapses that underwent synaptic tagging and capture[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Pep2m, myristoylated TFA (10 μg/20 μL) results in an increase in paw withdrawal thresholds (PWTs) on nociceptive responses in the formalin test[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Female and male Long-Evans hooded rats (8 weeks)[2]
Dosage:	10 μg (in 20 μL)
Administration:	Intrathecal injection
Result:	Resulted in an increase in PWTs, in both male and female rats at various time points tested.

REFERENCES

[1]. Yudong Yao, et al. PKMζ Maintains Late Long-Term Potentiation by N-Ethylmaleimide-Sensitive Factor/GluR2-Dependent Trafficking of Postsynaptic AMPA Receptors. J Neurosci. 2008 Jul 30; 28(31): 7820-7827.

[2]. Nicole C George, et al. Sex differences in the contributions of spinal atypical PKCs and downstream targets to the maintenance of nociceptive sensitization. Mol Pain. 2019; 15: 1744806919840582.

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