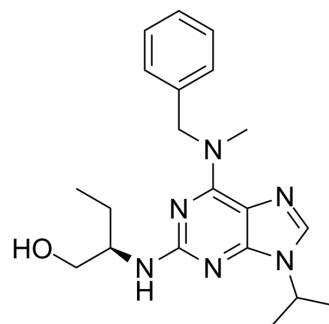


Aftin-4

Cat. No.:	HY-111267		
CAS No.:	866893-90-5		
Molecular Formula:	C ₂₀ H ₂₈ N ₆ O		
Molecular Weight:	368.48		
Target:	Amyloid-β		
Pathway:	Neuronal Signaling		
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 : ≥ 100 mg/mL (271.39 mM)
 * "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	2.7139 mL	13.5693 mL	27.1385 mL
	5 mM	0.5428 mL	2.7139 mL	5.4277 mL
	10 mM	0.2714 mL	1.3569 mL	2.7139 mL

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

In Vivo

- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
 Solubility: ≥ 2.5 mg/mL (6.78 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
 Solubility: ≥ 2.5 mg/mL (6.78 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil
 Solubility: ≥ 2.5 mg/mL (6.78 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Aftin-4 is an Amyloid-β₄₂ (Aβ₄₂) inducer.

IC₅₀ & Target

Amyloid-β^[1]

In Vitro

Aftin-4 selectively and potently increases Aβ₁₋₄₂ in N2a cells, primary neurons, and brain lysates, with an EC₅₀ value around 30 μM^[1].

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

In Vivo

Aftin-4 increases A β ₁₋₄₂ levels in vivo in mice and provokes rapidly a sustained toxicity highly reminiscent of Alzheimer's disease (AD). Aftin-4 is administered at increasing doses, between 3 and 20 nmol/mouse, into the lateral ventricle and animals are sacrificed at various time points, between 3 to 14 days after injection. The hippocampus is dissected out the contents in A β ₁₋₄₀ or A β ₁₋₄₂ is determined using a mouse ELISA assay. Aftin-4 dose-dependently and significantly increases A β ₁₋₄₂ content, up to +216% at the highest dose tested^[1].

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

PROTOCOL

Animal Administration ^[1]

Mice^[1]

Male Swiss OF-1 mice, aged 7-9 weeks and weighing 32±2 g are used. Aftin-4 is solubilized in DMSO at a concentration of 3 mg/mL and stored at -20°C until use. Aftin-4 is administered intracerebroventricularly (i.c.v.), with a Hamilton microsyringe equipped with a 3-mm needle in a final volume of 3 μ L per mouse. The injection coordinates are -0.4 mm with respect to bregma, 1.00mm to the right from the central, and 2.50mm in depth. Aftin-4 is also injected intraperitoneally (i.p.). Aftin-4 is solubilized in DMSO 40% in distilled water at 2, 6 or 20 mg/mL and administered in a final volume of 100 μ L/20 g body weight ^[1].

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

REFERENCES

[1]. Meunier J, et al. Brain toxicity and inflammation induced in vivo in mice by the amyloid- β forty-two inducer aftin-4, a roscovitine derivative. J Alzheimers Dis. 2015;44(2):507-24.

Caution: Product has not been fully validated for medical applications. For research use only.

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