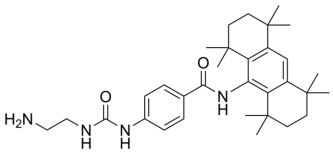
OAB-14

Cat. No.:	HY-139973
CAS No.:	2140911-49-3
Molecular Formula:	$C_{32}H_{46}N_4O_2$
Molecular Weight:	518.73
Target:	Amyloid-β
Pathway:	Neuronal Signaling
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 : 20 mg/mL (38.56 mM; ultrasonic and warming and adjust pH to 3 with HCl and heat to 60°C)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	1.9278 mL	9.6389 mL	19.2779 mL
	5 mM	0.3856 mL	1.9278 mL	3.8556 mL
	10 mM	0.1928 mL	0.9639 mL	1.9278 mL

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

BIOLOGICAL ACTIVITY

Description

OAB-14, is a Bexarotene (HY-14171) derivative, improves Alzheimer's disease-related pathologies and cognitive impairments by increasing β-amyloid clearance in APP/PS1 mice. OAB-14 effectively ameliorates the dysfunction of the endosomal-autophagic-lysosomal pathway in APP/PS1 transgenic mice[1][2].

In Vivo

OAB-14 significantly alleviates cognitive impairments in amyloid precursor protein (APP)/presenilin 1 (PS1) transgenic mice after administration for 15 days or 3 months. OAB-14 rapidly cleared 71% of Aβ by promoting microglia phagocytosis and increasing IDE and NEP expression. OAB-14 also attenuates the downstream pathological events of Aβ accumulation, such as synaptic degeneration, neuronal loss, tau hyperphosphorylation and neuroinflammation in APP/PS1 mice. OAB-14 has no significant effect on body weight or liver toxicity after acute and chronic treatment[1].

OAB-14 facilitates receptor-mediated endocytosis and restores autophagy flux via the AMPK/mTOR pathway. OAB-14 enhances the lysosomal activity, and reduced Aβ accumulation in lysosomes is observed in OAB-14-treated AD mice[2].

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

REFERENCES

[1]. Guo X, et al. OAB-14 Effectively Ameliorates the Dysfunction of the Endosomal-Autophagic-Lysosomal Pathway in APP/PS1 Transgenic Mice. ACS Chem Neurosci. 2021;12(21):3985-3993.

[2]. Yuan C, et al. OAB-14, a bexarotene derivative, improves Alzheimer's disease-related pathologies and cognitive impairments by increasing β-amyloid clearance in APP/PS1 mice. Biochim Biophys Acta Mol Basis Dis. 2019;1865(1):161-180.

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