Product Data Sheet

Product Name: WWL123
Cat. No.: GC15209

Chemical Properties

Cas. No.	1338575-41-9		
Chemical Name	N-([1,1'-biphenyl]-3-ylmethyl)-N-methyl-carbamic acid, 4'-(aminocarbonyl)[1,1'-biphenyl]-3-yl ester		
SMILES	O=C(N)C1=CC=C(C2=CC(OC(N(C)CC3=CC=CC(C4=CC=CC=C4)=C3)=O)=CC=C2)C=C1		
Formula	$C_{28}H_{24}N_2O_3$	M.Wt	436.5
Solubility	≤1mg/ml in DMSO	Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure	WWL123		

Background

IC50: 0.43 μM

WWL123 is a brain-penetrant inhibitor of ABHD6.

The serine hydrolase a/b-hydrolase domain 6 (ABHD6) has been reported to hydrolyze the most abundant endocannabinoid (eCB) in the brain, 2-arachidonoylglycerol (2-AG), and controls its availability at cannabinoid receptors.

In vitro: WWL123 was identified as a brain-penetrant inhibitor of ABHD6 demonstrating over 10-fold selectivity for ABHD6 compared to a panel of about 35 other serine hydrolases [1].

In vivo: In previous study, mice were pretreated with either vehicle or WWL123, and then they were treated with 50 mg/kg PTZ. It was found that pretreatment with WWL123 could block seizure-related mortality, reduce the severity of seizure behaviors, reduce the number of GTC seizures per mouse, and reduce the frequency of myoclonic (MC) seizures as well. In addition, to test whether behavioral seizures exhibited by R6/2 mice are controlled by chronic blockade of the eCB signaling system, the authors treated mice with a daily injection of vehicle, SR1, or WWL123. Results showed that WWL123 blocked the incidence of spontaneous behavioral seizures in R6/2 mice and there was no effect on duration of spontaneous seizures in response to chronic SR1 treatment vehicle [2].

Clinical trial: So far, no clinical study has been conducted.

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References:
[1] Bachovchin, D. A.,Ji, T.,Simon, G.M., et al. Superfamily-wide portrait of serine hydrolase inhibition achieved by library-versus-library screening. Proceedings of the National Academy of Sciences of the United States of America 107(49), 20941-20946 (2010).
[2] Naydenov, A. V.,Horne, E.A.,Cheah, C.S., et al. ABHD6 blockade exerts antiepileptic activity in PTZ-induced seizures and in spontaneous seizures in R6/2 mice. Neuron 83(2), 361-371 (2014).

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