Product Data Sheet

Product Name: RB394
Cat. No.: GC15909

Chemical Properties

Cas. No.	1830320-32-5		
Chemical Name	α-ethyl-4-[[[[4-methoxy-2-(trifluoromethyl)phenyl]methyl]amino]carbonyl]-benzenepropanoic acid		
SMILES	COC1=CC(C(F)(F)F)=C(CNC(C2=CC=C(CC(C(O)=O)CC)C=C2)=O)C=C1		
Formula	$C_{21}H_{22}F_3NO_4$	M.Wt	409.4
Solubility	≤5mg/ml in ethanol;33mg/ml in DMSO;25mg/ml in dimethyl formamide	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	RB394		

Background

RB394 is an orally bioavailable and dual modulator of soluble epoxide hydrolase (sEH) and PPARγ [1].

Soluble epoxide hydrolase (sEH) is a bifunctional enzyme involved in the in vivo metabolism of endogenous lipid epoxides. The sEH is abundantly expressed in adipose tissue. sEH is an enzyme of the arachidonic acid cascade, promoting the hydrolysis of cytochrome P450 derived epoxyeicosatrienoic acids (EETs). Endothelial cell-derived EETs activate calcium-activated potassium channels on smooth muscle cells, leading to hyperpolarization and vascular relaxation. PPARγ, a member of the PPAR nuclear receptor family, plays an important role in adipogenesis, regulation of lipid metabolism and glucose homeostasis, and anti-inflammatory processes [1].

RB394 inhibited the activity of sEH with an IC50 of 0.33 μM and activated PPARγ with an EC50 of 0.3 μM. RB394 was inactive at PPARδ and showed 29% activation of PPARαat 10

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μM. In mice, treatment with 30 mg/kg RB394 in drinking water for two weeks resulted in a final plasma concentration of ~3 μM. RB394 upregulated the PPARγ target genes, as well as PPARα and PPARδ in mouse livers [1].

References:

[1] Blocher R, Lamers C, Wittmann S K, et al. N-Benzylbenzamides: a novel merged scaffold for orally available dual soluble epoxide hydrolase/peroxisome proliferator-activated receptor γ modulators[J]. Journal of medicinal chemistry, 2015, 59(1): 61-81.