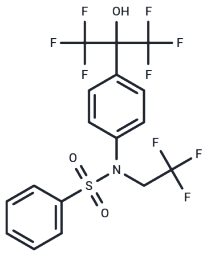
Data Sheet (Cat.No.T6690)

TargetMol

T0901317

Chemical Properties



CAS No. : 293754-55-9

Formula: C17H12F9NO3S

Molecular Weight: 481.33

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	T0901317 is a potent and selective agonist for both LXR and FXR, with EC50 of ~50 nM and 5 μM, respectively; it inhibits nuclear factor/κB (NF/κB).
Targets(IC50)	Apoptosis,FXR,Liver X Receptor,ROR
In vitro	T0901317 acts through LXR and in concert with its RXR heterodimerization partner induces the expression of the ABCA1 reverse cholesterol transporter. T0901317 upregulates expression of the ABCA1 gene associated with cholesterol efflux regulation and HDL metabolism.[1] T0901317 displays an EC50 of ~ 5 μM for activation of bile acid farnesoid X receptors (FXRs), 10-fold more potent than natural FXR ligand chenodeoxycholic acid. [2] T0901317, is also a high-affinity ligand for the xenobiotic receptor pregnane X receptor (PXR). T0901317 binds and activates PXR with the same nanomolar potency with which it stimulates LXR activity. T0901317 induces expression not only of LXR target genes, but also of PXR target genes in cells and animals, including the scavenger receptor CD36. [3] T0901317 decreases amyloid-β production in primary neurons in vitro. [4] T0901317 is found to directly bind to RORα and RORγ with high affinity (Ki = 132 and 51 nM, respectively), resulting in the modulation of the receptor's ability to interact with transcriptional cofactor proteins. T0901317 represses RORα/γ-dependent transactivation of ROR-responsive reporter genes and in HepG2 cells reduces recruitment of steroid receptor coactivator-2 by RORα at an endogenous ROR target gene (G6Pase). [5]
In vivo	T0901317 treatment of 11-week-old APP23 mice for 6 days shows a significant increase in ABCA1 expression and a decrease in the ratio of soluble APP (sAPP)β- to sAPPα-cleavage products. Most importantly, the treatment causes a statistically significant reduction in the levels of soluble Aβ40 and of Aβ42 in the brain these mice. [4]

Solubility Information

Solubility	DMSO: 130 mg/mL (270.08 mM),Sonication is recommended. Ethanol: 48.1 mg/mL (99.93 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 2.5 mg/mL (5.19 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one.*

In vivo Formulation	*Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.0776 mL	10.3879 mL	20.7758 mL
5 mM	0.4155 mL	2.0776 mL	4.1552 mL
10 mM	0.2078 mL	1.0388 mL	2.0776 mL
50 mM	0.0416 mL	0.2078 mL	0.4155 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Repa JJ, et al. Science, 2000, 289(5484), 1524-1529.
Li C, Wu H, Na H S T, et al. Neuronal-Microglial Liver X receptor β Activating Decrease Neuroinflammation and Chronic Stress-induced Depression-Related Behavior in Mice. Brain Research. 2022: 148112.
Liu Y, Wang Z, Jin H, et al.Squalene-epoxidase-catalyzed 24 (S), 25-epoxycholesterol synthesis promotes trained-immunity-mediated antitumor activity.Cell Reports.2024, 43(4).
Houck KA, et al. Mol Genet Metab, 2004, 83(1-2), 184-187.
Mitro N, et al. FEBS Lett, 2007, 581(9), 1721-1726.
Koldamova RP, et al. J Biol Chem, 2005, 280(6), 4079-4088.
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