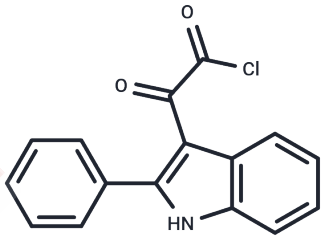
Data Sheet (Cat.No.T73599)

TargetMol

TSPO ligand-1

Chemical Properties



CAS No. : 4560-08-1

Formula: C16H10ClNO2

Molecular Weight: 283.71

Storage: Store at low temperature
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	TSPO ligand-1 has affinity for peripheral and central benzodiazepine receptors.TSPO ligand-1 is an AUTAC4-binding protein in the transmembrane domain of the outer mitochondrial membrane, which induces mitochondrial autophagy and promotes intracellular mitochondrial regeneration.TSPO ligand-1 is involved in intracellular cholesterol transport, and can be used as a biomarker for brain injury and neurodegeneration. TSPO ligand-1 is involved in intracellular cholesterol transport and can be used as a biomarker for brain damage and neurodegeneration.
Targets(IC50)	Autophagy,Ligands for Target Protein for PROTAC
In vitro	In the context of selective activation of neurons in male C57Bl6/N mice, the TSPO ligand-1 gene is induced to increase expression. Additionally, under both physiological and psychopharmacological conditions, neuronal activation leads to increased TSPO levels in adult mice[2]. As the sole marker of glial cell activity in Alzheimer's disease, TSPO ligand-1 can track the formation of different neural cells[4]. In the MA-10 Leydig cell line, TSPO ligand-1 can regulate mitochondrial fatty acid oxidation (FAO) and thus affects mitochondrial energy homeostasis[3].

Solubility Information

Solubility	DMSO: 50 mg/mL (176.24 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 mg/mL (7.05 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. 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	3.5247 mL	17.6236 mL	35.2473 mL
5 mM	0.7049 mL	3.5247 mL	7.0495 mL
10 mM	0.3525 mL	1.7624 mL	3.5247 mL
50 mM	0.0705 mL	0.3525 mL	0.7049 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

Takahashi D, et, al. AUTACs: Cargo-Specific Degraders Using Selective Autophagy. Mol Cell. 2019 Dec 5;76(5):797-810.e10.
Tina Notter, et al. Neuronal activity increases translocator protein (TSPO) levels. Mol Psychiatry. 2021 Jun;26(6):2025-2037.
Lan N Tu, et al. Translocator Protein (TSPO) Affects Mitochondrial Fatty Acid Oxidation in Steroidogenic Cells. Endocrinology. 2016 Mar;157(3):1110-21.
Benjamin B Tournier, et al. Astrocytic TSPO Upregulation Appears Before Microglial TSPO in Alzheimer's Disease. J Alzheimers Dis. 2020;77(3):1043-1056.