Product Datasheet

TSPO ligand-1

Catalog No. **BP-02161** · CAS **4560-08-1** · Form **free base** · Physical state **other** · Color **Light yellow to green yellow** · Version **1.0** · Revision **2026-09-04**

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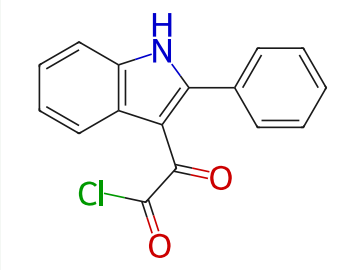
Target	Research area
Ligands for Target Protein for PROTAC; Autophagy	**Others; Neurological Disease; Cancer**

Molecular formula	**$C_{16}H_{10}ClNO_2$**
Molecular weight	**283.7090**

STRUCTURE



DESCRIPTION

TSPO ligand-1 is the ligand of AUTAC4 that can be used in the synthesis of PROTACs. TSPO ligand-1 is a mitochondrial outer membrane transmembrane structural domain protein can bind to AUTAC4 and regulate mitochondrial autophagy to promote targeted mitochondrial renewal.

BIOLOGICAL ACTIVITY

In Vitro

TSPO ligand-1 gene is induced to increase expression in the context of selective activation of neurons in male C57Bl6/N mice. Moreover, neuronal activation under physiological and psychopharmacological conditions also results in increased TSPO levels in adult mice.

TSPO ligand-1 can serve as the sole marker of glial cell activity in Alzheimer’s disease thus tracking the formation of different neural cells.

TSPO ligand-1 can regulate mitochondrial fatty acid oxidation (FAO) and thus effects mitochondrial energy homeostasis in MA-10 Leydig cell line.

SOLUBILITY

Soluble in DMSO

REFERENCES

[1]. Takahashi D, et, al. AUTACs: Cargo-Specific Degraders Using Selective Autophagy. Mol Cell. 2019 Dec 5;76(5):797-810.e10.

[2]. Tina Notter, et al. Neuronal activity increases translocator protein (TSPO) levels. Mol Psychiatry. 2021 Jun;26(6):2025-2037. doi: 10.1038/s41380-020-0745-1. Epub 2020 May 12.

[3]. Benjamin B Tournier, et al. Astrocytic TSPO Upregulation Appears Before Microglial TSPO in Alzheimer's Disease. J Alzheimers Dis. 2020;77(3):1043-1056. doi: 10.3233/JAD-200136.

[4]. Lan N Tu, et al. Translocator Protein (TSPO) Affects Mitochondrial Fatty Acid Oxidation in Steroidogenic Cells. Endocrinology. 2016 Mar;157(3):1110-21. doi: 10.1210/en.2015-1795. Epub 2016 Jan 7.

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