TWS119 is a specific inhibitor of GSK-3β, with an IC₅₀ of 30 nM, and activates the wnt/β-catenin pathway.

**IC₅₀ & Target**

- **IC₅₀**: GSK-3β, IC₅₀: 30 nM

**In Vitro**

TWS119 induces neuronal differentiation in P19 EC cells and primary mouse ESCs. TWS119 binds to GSK-3β with Kᵩ of 126 nM, and modulates the activity of the complex, triggering downstream transcriptional events that lead the neuronal induction[1]. TWS119 (< 4 μM) significantly enhances the proliferation and survival of γδT cells via activation of the mammalian target of rapamycin (mTOR) pathway, upregulation of the expression of anti-apoptotic protein Bcl-2 and inhibition of cleaved caspase-3. TWS119 (0-8 μM) induces the generation of CD62L⁺γδT or CCR5⁺γδT cell phenotypes. TWS119 (0.5, 1.0 and 2 μM) increases the expression level of granzyme B in a dose-dependent manner. TWS119 also enhances the cytolytic activity of γδT cells against tumour cells in vitro[3].

**In Vivo**

TWS119 (30 mg/kg, i.p.) improves the neurologic function and decreases neurologic deficit dcore in rtPA-treated MCAO rats. TWS119 effectively relieves cerebral edema, and reduces cerebral infarction in rats treated with rtPA.
TWS119 also effectively decreases blood-brain barrier permeability in rtPA-Treated MCAO Rats and attenuates rtPA-induced hemorrhage in ischemic brain tissue. Furthermore, TWS119 activates the Wnt/β-Catenin signaling pathway and increases the expression of Claudin-3 and ZO-1[2].

**PROTOCOL**

**Cell Assay**[3]

PBMCs are cultured with pamidronate disodium for 8 days and then cells are labelled with or without 1.5 μM carboxyfluorescein succinimidyl ester (CFSE) and CFSE-labelled cells are then seeded in 6-well plates (2.5 × 10^6 cells/well) followed by treatment with various concentrations of TWS119 for 72 h. The total number of cultured cells is evaluated using an automated cell counter and the γδ T cell proliferation is examined by flow cytometry[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

**Animal Administration**[2]

All rats are randomly divided into four groups as follows: Sham group-rats undergo the same surgical procedure, but the filament is not inserted and they receive 1 mL of dimethyl sulfoxide (1 % DMSO in saline); Vehicle group-rats undergo MCAO and receive 1 mL of DMSO; rtPA group-rats underwent MCAO and receive rtPA (10 mg/kg, Actilyse®) at 4 h after MCAO; and rtPA+TWS119 group-rats undergo MCAO and receive intraperitoneal TWS119 (30 mg/kg, dissolved in 1 mL 1 % DMSO) immediately after rtPA injection at 4 h after MCAO[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

**CUSTOMER VALIDATION**

- Harvard Medical School LINCS LIBRARY

See more customer validations on www.MedChemExpress.com

**REFERENCES**


**Caution: Product has not been fully validated for medical applications. For research use only.**

Tel: 609-228-6898  Fax: 609-228-5909  E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA