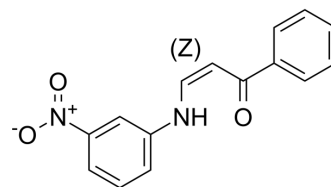


DJ001

Cat. No.:	HY-133146		
CAS No.:	2161305-12-8		
Molecular Formula:	C ₁₅ H ₁₂ N ₂ O ₃		
Molecular Weight:	268.27		
Target:	Phosphatase; Apoptosis		
Pathway:	Metabolic Enzyme/Protease; Apoptosis		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	2 years
		-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : 250 mg/mL (931.90 mM; Need ultrasonic)

Concentration	Solvent	Mass		
		1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM	3.7276 mL	18.6379 mL	37.2759 mL
	5 mM	0.7455 mL	3.7276 mL	7.4552 mL
	10 mM	0.3728 mL	1.8638 mL	3.7276 mL

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

DJ001 is a highly specific, selective and non-competitive protein tyrosine phosphatase-σ (PTPσ) inhibitor with an IC₅₀ of 1.43 μM. DJ001 displays no inhibitory activity against other phosphatases, with only modest inhibitory activity against Protein Phosphatase 5. DJ001 promotes hematopoietic stem cell regeneration^[1].

IC₅₀ & Target

IC₅₀: 1.43 μM (Protein tyrosine phosphatase-σ)^[1]

In Vitro

DJ001 (5-1000 ng/mL; 3-7 days; BM KSL cells) treatment increases the percentages and numbers of BM KSL cells in culture compared with control cultures. DJ001 treatment also significantly increases the numbers of colony forming cells (CFCs) in 3 day culture of BM KSL cells^[1].

The BM KSL cells are irradiated with 300 cGy and placed in media (containing 20 ng/mL Thrombopoietin, 100 ng/mL stem cell factor (SCF), 50 ng/mL Flt3 ligand, TSF) with and without 1 μg/mL DJ001 for 3 days. DJ001 treatment increases recovery of BM CFCs and multipotent colony-forming unit-granulocyte erythroid monocyte megakaryocyte (CFU-GEMM) colonies compared with control cultures^[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Viability Assay^[1]

	Cell Line:	BM KSL cells
	Concentration:	5 ng/mL, 10 ng/mL, 100 ng/mL, 1000 ng/mL
	Incubation Time:	3 days or 7 days
	Result:	Increased the percentages and numbers of BM KSL cells. Also significantly increased the numbers of colony forming cells (CFCs) in 3 day culture of BM KSL cells.
In Vivo	<p>DJ001 (5 mg/kg; subcutaneous injection; for 24 hours; female C57BL/6 mice) significantly decreases the percentage of apoptotic BM KSL cells in C57BL/6 mice at 24 h following 500 cGy TBI. DJ001 suppresses radiation-induced HSC apoptosis via activation of the RhoGTPase, RAC1, and induction of BCL-X_L^[1].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>	
	Animal Model:	Female C57BL/6 mice (8-10-week-old) irradiated with total body irradiation (TBI) ^[1]
	Dosage:	5 mg/kg
	Administration:	Subcutaneous injection; for 24 hours
	Result:	Significantly decreased the percentage of apoptotic BM KSL cells in C57BL/6 mice at 24 h following 500 cGy TBI.

REFERENCES

[1]. Zhang Y, et al. PTP σ inhibitors promote hematopoietic stem cell regeneration. Nat Commun. 2019 Aug 14;10(1):3667.

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