Irbesartan

Cat. No.: HY-B0202

CAS No.: 138402-11-6

Molecular Formula: $C_{25}H_{28}N_6O$

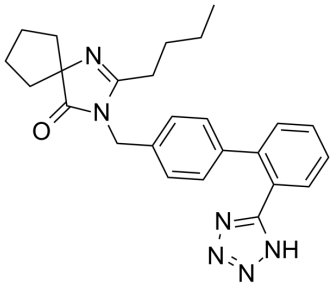
Molecular Weight: 428.53

Target: Angiotensin Receptor; Apoptosis

Pathway: GPCR/G Protein; 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 : 100 mg/mL (233.36 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.3336 mL	11.6678 mL	23.3356 mL
	5 mM	0.4667 mL	2.3336 mL	4.6671 mL
	10 mM	0.2334 mL	1.1668 mL	2.3336 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (5.83 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (5.83 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (5.83 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Irbesartan (SR-47436) is an orally active Ang II type 1 (AT1) receptor blocker (ARB). Irbesartan can relax the blood vessels, low blood pressure and increase the supply of blood and oxygen to the heart. Irbesartan can be used for the research of high blood pressure, heart failure, and diabetic kidney disease[1].

In Vitro

Irbesartan (20 μM, 3 h) reduces Th22 cells chemotaxis in vitro[1].
Irbesartan (0 μM, 20 μM, 40 μM and 60 μM) suppresses Th22 cells differentiation in vitro[1].
Irbesartan (20 μM) inhibits Th22 cells related proinflammatory response of TECs in vitro[1].

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

Cell Viability Assay[1]

Cell Line:	CD4+ T cells
Concentration:	0, 20, 40 and 60 μM
Incubation Time:	48 h
Result:	Exerted no obvious effect on viability of $CD4^+$T cells.

In Vivo

Irbesartan (oral gavage; 50 mg/kg/d; once daily) reduces Th22 lymphocytosis and serum IL-22 level in Ang II-infused mice[1].
Irbesartan (oral gavage; 50 mg/kg/d; once daily) exerts obvious renoprotective effects[1].
Irbesartan (oral gavage; 50 mg/kg/d; once daily) relieves systemic inflammation and renal fibrosis in hypertension mice induced by Ang II[1].
Irbesartan hydrochloride (20 μM; for 3 h) can attenuate Th22 cells recruitment and IL-22 secretion, which might be through inhibiting chemotaxis in hypertensive renal injury mice[1].

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

Animal Model:	C57BL/6 mice[1]
Dosage:	50 mg/kg
Administration:	oral gavage; 50 mg/kg/d; once daily
Result:	Displayed low Th22 cells and IL-22, exerted similar inhibitory effect on Th1 cell proportion and displayed decreased IL-22 level in kidney. Prevented BP elevation markedly and decreased urinary albumin/creatinine ratio, BUN and Scr. Repressed the expression of IL-1β, IL-6, TNF-α, α-SMA, FN and Col I and diminished the extent of fibrosis.

Animal Model:	C57BL/6 mice[1]
Dosage:	20 μM
Administration:	20 μM; for 3 h
Result:	Downregulated renal CCL20, CCL22 and CCL27 concentrations.

CUSTOMER VALIDATION

- J Exp Clin Cancer Res. 2023 May 4;42(1):111.
- Atherosclerosis. 2019 Jul 23;288:124-136.
- Biomedicines. 2021, 9(12), 1820.
- Saudi Pharm J. 13 January 2022.

See more customer validations on www.MedChemExpress.com

REFERENCES

[1]. Yong Zhong, et al. Irbesartan may relieve renal injury by suppressing Th22 cells chemotaxis and infiltration in Ang II-induced hypertension. Int Immunopharmacol

[2]. Schupp M, et al. Angiotensin type 1 receptor blockers induce peroxisome proliferator-activated receptor-gamma activity. Circulation. 2004 May 4;109(17):2054-7. Epub 2004 Apr 26.

[3]. Ruiz E, et al. Importance of intracellular angiotensin II in vascular smooth muscle cell apoptosis: inhibition by the angiotensin AT1 receptor antagonist irbesartan. Eur J Pharmacol. 2007 Jul 19;567(3):231-9. Epub 2007 Apr 6.

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