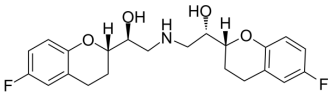
Nebivolol

Cat. No.:	HY-B0203
CAS No.:	118457-14-0
Molecular Formula:	$C_{22}H_{25}F_2NO_4$
Molecular Weight:	405.44
Target:	Adrenergic Receptor
Pathway:	GPCR/G Protein; Neuronal Signaling
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

Nebivolol (R 065824) is an orally active beta receptor blocker and has the high beta(1)-receptor affinity. Nebivolol has direct vasodilator properties and adrenergic blocking characteristics. Nebivolol can be used for the research of kinds of diseases such as hypertension, coronary artery disease, congestive heart failure and ischemic heart disease[1][2].

In Vitro

Nebivolol improves endothelial dysfunction via its strong stimulatory effects on the activity of the endothelial nitric oxide synthase and via its antioxidative properties[1].
Nebivolol (0.1 μM-10 μM, 1, 2, 4, 7 or 14 days) inhibits haCSMC or haEC proliferation with IC_{50} values of ~ 6.0 μM[2].
Nebivolol (0.1 μM-10 μM, 24 h) induces a moderate rate of apoptosis[2].
Nebivolol (0.1, 1, 5,10 μM, 4 days)increases NO formation and decreases endothelin-1 secretion in HaCEs[2]
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Proliferation Assay[2]

Cell Line:	haCSMCs (human coronary smooth muscle cells) and haECs (endothelial cells)
Concentration:	0.1 μM-10 μM
Incubation Time:	1, 2, 4, 7 or 14 days
Result:	Reduced proliferation in HaECs and HaCSMCs in a concentration- and time-dependent.

Apoptosis Analysis[2]

Cell Line:	haCSMCs and haECs
Concentration:	0.1 μM-10 μM
Incubation Time:	24 h
Result:	Induced a moderate apoptosis in concentration-dependent and showed a decrease of haCSMCs in the S-phase by 66%.

CUSTOMER VALIDATION

- J Pharmaceut Biomed. 2020, 113870.

See more customer validations on www.MedChemExpress.com

REFERENCES

[1]. Thomas Münzel, et al. Nebivolol: the somewhat-different beta-adrenergic receptor blocker. J Am Coll Cardiol. 2009 Oct 13;54(16):1491-9.

[2]. Brehm BR, et al. Effects of nebivolol on proliferation and apoptosis of human coronary artery smooth muscle and endothelial cells. Cardiovasc Res. 2001 Feb 1;49(2):430-9.

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