Web: www.taiclone.com
Tel: +886-2-2735-9682
Email: order@taiclone.com

Nebivolol (hydrochloride)

Catalog No: tcsc2142

Available Sizes

Size: 10mg

Size: 50mg

Specifications

CAS No:
152520-56-4

Formula:
$C_{22}H_{26}ClF_2NO_4$

Pathway:
GPCR/G Protein

Target:
Adrenergic Receptor

Purity / Grade:
>98%

Solubility:
10 mM in DMSO

Alternative Names:
R 065824 hydrochloride

Observed Molecular Weight:
441.9

Product Description

Nebivolol hydrochloride selectively inhibits β1- adrenergic receptor with IC50 of 0.8 nM.

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Target: β1- adrenergic receptor

Nebivolol reduces cell proliferation of human coronary smooth muscle cells (haCSMCs) and endothelial cells (haECs) in a concentration- and time-dependent maner. Nebivolol treatment for 7 days causes significant reduction in cell growth of haCSMCs with IC50 of 6.1 μM, and inhibits accelerated haCSMC proliferation stimulated by growth factors PDGF-BB, bFGF, and TGFβ with IC50 values of 6.8 μM, 6.4 μM and 7.7 μM, repectively. Nebivolol treatment (10-5 M) of haCSMCs for 48 hours induces a moderate apoptosis of 23% and a decrease from 16% to 5% in the number of cells in S-phase. During Nebivolol incubation, NO formation of HaCEs increases, while endothelin-1 transcription and secretion are suppressed.

Administratiion of Nebivolol (initially by iv within 10 minutes of reperfusion and then orally) to rats with myocardial infarction (MI) reduces myocardial apoptosis, which is mediated by regulation of NO . Nebivolol, significantly, prevents left ventricular (LV) pressure changes, reduces total and regional apoptotic cardiomyocytes. Nebivolol treatment lowers mean blood pressure (MBP) in rats with MI slightly, but not significantly.