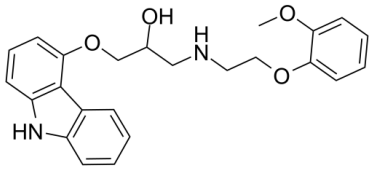
Data Sheet

Product Name:	Carvedilol
Cat. No.:	CS-1194
CAS No.:	72956-09-3
Molecular Formula:	C24H26N2O4
Molecular Weight:	406.47
Target:	Adrenergic Receptor; Autophagy
Pathway:	Autophagy; GPCR/G Protein; Neuronal Signaling
Solubility:	DMSO : 100 mg/mL (246.02 mM; Need ultrasonic); H2O : < 0.1 mg/mL (insoluble)



BIOLOGICAL ACTIVITY:

Carvedilol (BM 14190) is a non-selective **β/α-1** blocker[1]. Carvedilol inhibits lipid peroxidation in a dose-dependent manner with an IC_{50} of 5 μM. Carvedilol is a multiple action antihypertensive agent with potential use in angina and congestive heart failure[2]. Carvedilol is an **autophagy** inducer that inhibits the NLRP3 inflammasome[3]. IC50 & Target: β/α-1 adrenergic receptor[1]
IC50: 5 μM (lipid peroxidation)[2]
Autophagy[3]
In Vitro: Superoxide generation by activated human neutrophils in vitro is inhibited by Carvedilol with an IC_{50} of 28 μM. Carvedilol is shown to scavenge oxygen free radicals in a cell-free system with an IC_{50} of 25 μM[2].

References:

[1]. Eggertsen R, et al. Acute haemodynamic effects of carvedilol (BM 14190), a new combined beta-adrenoceptor blocker and precapillary vasodilating agent, in hypertensive patients. Eur J Clin Pharmacol. 1984;27(1):19-22.

[2]. Feuerstein GZ, et al. Myocardial protection by the novel vasodilating beta-blocker, carvedilol: potential relevance of anti-oxidant activity. J Hypertens Suppl. 1993 Jun;11(4):S41-8.

[3]. Wong WT, et al. Repositioning of the β-Blocker Carvedilol as a Novel Autophagy Inducer That Inhibits the NLRP3 Inflammasome. Front Immunol. 2018 Aug 22;9:1920.

CAIndexNames:

2-Propanol, 1-(9H-carbazol-4-yloxy)-3-[[2-(2-methoxyphenoxy)ethyl]amino]-

SMILES:

OC(CNCCOC1=CC=CC=C1OC)COC2=CC=CC(N3)=C2C4=C3C=CC=C4

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