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

Isoprenaline (hydrochloride)

Catalog No: tcsc2582

Available Sizes

Size: 200mg

Size: 1g

Specifications

CAS No:
51-30-9

Formula:
$C_{11}H_{18}ClNO_3$

Pathway:
GPCR/G Protein

Target:
Adrenergic Receptor

Purity / Grade:
>98%

Solubility:
DMSO : 14.5 mg/mL (58.53 mM; Need ultrasonic and warming)

Alternative Names:
Isoproterenol hydrochloride

Observed Molecular Weight:
247.72

Product Description

Isoprenaline hydrochloride is a non-selective **beta-adrenergic receptor** agonist with potent peripheral vasodilator, bronchodilator, and cardiac stimulating activities.

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IC50 & Target: Beta-adrenergic receptor[1]

In Vitro: Isoprenaline (300 nM, 3 min) increases particulate cGMP- and cilostamide-inhibited, low-K_m cAMP phosphodiesterase (cAMP-PDE) activity by about 100% in intact rat fat cells[1]. Isoprenaline inhibits insulin-stimulated glucose transport activity in rat adipocytes. Isoprenaline, in the absence of adenosine, promotes a time-dependent (t1/2 approximately 2 min) decrease in the accessibility of insulin-stimulated cell surface GLUT4 of > 50%, which directly correlated with the observed inhibition of transport activity[2]. Isoprenaline (5 nM and 10 mM) increases cyclic AMP levels and this effect is potentiated by cilostamide (10 mM), by rolipram, a cyclic AMP-specific PDE (PDE 4) inhibitor (10 mM) and by cyclic GMP-elevating agents (50 nM ANF or 30 nM SNP plus 100 nM DMPPO)[3]. Isoprenaline increases the transcriptional activity of Gi alpha-2 gene to 140% of the control value, whereas gene specific hybridization for Gs alpha remains unchanged[4]. Isoprenaline (20 nM) increases the amplitude of total iK and causes a negative shift of approximately 10 mV in the activation curve for iK, both in the absence and in the presence of 300 nM nisoldipine to block the L-type Ca^{2+} current. Isoprenaline (20 nM) increases the spontaneous pacemaker rate of sino-atrial node pacemaker cells by 16% in rabbit isolated pacemaker cells[5].