

Mirabegron

Catalog No: tcsc0915



Available Sizes

Size: 5mg

Size: 10mg

Size: 50mg



Specifications

CAS No:

223673-61-8

Formula:

$C_{21}H_{24}N_4O_2S$

Pathway:

GPCR/G Protein

Target:

Adrenergic Receptor

Purity / Grade:

>98%

Solubility:

10 mM in DMSO

Alternative Names:

YM178

Observed Molecular Weight:

396.51

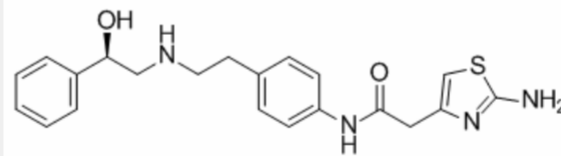
Product Description

Mirabegron is a selective **β_3 -adrenoceptor** agonist with **EC₅₀** of 22.4 nM.

IC50 & Target: EC50: 22.4 nM (β_3 -adrenoceptor)^[1]

In Vitro: Mirabegron (YM178) increases cyclic AMP accumulation in Chinese hamster ovary (CHO) cells expressing human β_3 -adrenoceptor (AR). EC₅₀ value is 22.4 nM. EC₅₀ values of Mirabegron for human β_1 - and β_2 -ARs are 10,000 nM or more, respectively. EC₅₀ of Mirabegron in rat bladder strips precontracted with 10⁻⁶ M Carbachol (CCh) is 5.1 μ M, whereas that in human bladder strips precontracted with 10⁻⁷ M CCh is 0.78 μ M. Mirabegron concentration-dependently increases the accumulation of cAMP in CHO cells expressing human β_3 -ARs, with an EC₅₀ value and I.A. of 22.4 nM and 0.8, respectively. Mirabegron has little agonistic effect on β_1 - and β_2 -ARs. Compared by EC₅₀ value, Mirabegron is approximately one third as potent as isoproterenol. The maximal relaxant effects of Mirabegron are 94 \pm 1%, that of CCh, indicating that Mirabegron acts a full agonist in the rat bladder. The maximal relaxant effects of Mirabegron is 89.4 \pm 2.3%^[1].

In Vivo: Mirabegron (YM178) produces a dose-dependent decrease in the frequency of rhythmic bladder contraction in anesthetized rats. In contrast, Mirabegron does not decrease the amplitude of rhythmic bladder contraction at up to 3 mg/kg i.v.. On the contrary, Oxybutynin significantly increases the frequency of rhythmic bladder contraction and decreased its amplitude at doses of 0.272 mg/kg i.v. or more^[1].



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