

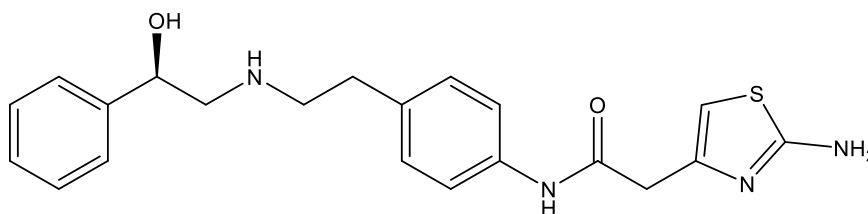
Catalog #10-4228

Mirabegron

CAS 223673-61-8

2-(2-Amino-1,3-thiazol-4-yl)-N-[4-[2-[[[(2R)-2-hydroxy-2-phenylethyl]amino]ethyl]phenyl]acetamide; (R)-2-(2-Aminothiazol-4-yl)-4'-[2-[(2-hydroxy-2-phenylethyl)amino]ethyl]acetanilide; YM178

Lot # FBS4007



Mirabegron is a potent ($EC_{50} = 22.4$ nM CHO cells expressing human β_3 -ARs) beta-3 adrenergic receptor (β_3 -AR) agonist with high selectivity over the beta-1 and beta-2 receptors.¹ Clinically useful for the treatment of overactive bladder syndrome. Chronic treatment of human subjects with mirabegron increased brown adipose tissue (BAT) metabolic activity, increased HDL and bile acid levels, and produced substantial improvements in glucose and insulin metabolism.² Mirabegron inhibited tumor growth in various tumor models including pancreatic ductal adenocarcinoma and hepatocellular carcinoma *via* altering global metabolism in an uncoupling protein 1 (UCP1; a key protein for non-shivering thermogenesis) dependent manner.³

- 1) Takasu *et al.* (2007) *Effect of (R)-2-(2-aminothiazol-4-yl)-4'-[2-[(2-hydroxy-2-phenylethyl)amino]ethyl]acetanilide (YM178), a novel selective beta3-adrenoceptor agonist, on bladder function*; J. Pharmacol. Exp. Ther. **321** 642
- 2) O'Mara *et al.* (2020) *Chronic mirabegron treatment increases human brown fat, HDL cholesterol, and insulin sensitivity*; J. Clin. Invest. **130** 2209
- 3) Sun *et al.* (2023) *Mirabegron displays anticancer effects by globally browning adipose tissues*; Nat. Commun. **14** 7610

PHYSICAL DATA

Molecular Weight:	396.51
Molecular Formula:	C ₂₁ H ₂₄ N ₄ O ₂ S
Purity:	>98% HPLC
	NMR: (Conforms)
Solubility:	DMSO (at least 40 mg/ml)
Physical Description:	Beige solid
Storage and Stability:	Store as supplied at -20°C for up to 2 years from the date of purchase. Solutions in DMSO may be stored at -20°C for up to 3 months.

Materials provided by Focus Biomolecules are for laboratory research use only and are not intended for human or veterinary applications.

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