Solifenacin Succinate

Cat. No.: HY-A0002

CAS No.: 242478-38-2

Molecular Formula: $C_{27}H_{32}N_2O_6$

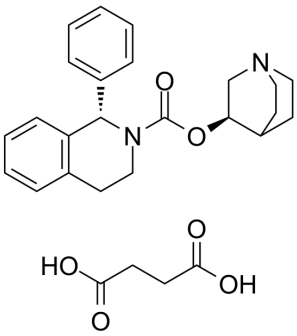
Molecular Weight: 480.55

Target: mAChR

Pathway: GPCR/G Protein; Neuronal Signaling

Storage: 4°C, sealed storage, away from moisture

* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro

H_2O : 100 mg/mL (208.09 mM; Need ultrasonic)

DMSO : ≥ 100 mg/mL (208.09 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Concentration \ Solvent \ Mass	1 mg	5 mg	10 mg
1 mM	2.0809 mL	10.4047 mL	20.8095 mL
5 mM	0.4162 mL	2.0809 mL	4.1619 mL
10 mM	0.2081 mL	1.0405 mL	2.0809 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: PBS
   Solubility: 50 mg/mL (104.05 mM); Clear solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (5.20 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (5.20 mM); Clear solution
4. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (5.20 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Solifenacin Succinate (YM905) is a novel muscarinic receptor antagonist with pK_is of 7.6, 6.9 and 8.0 for M_1, M_2 and M_3 receptors, respectively.

In Vitro

Solifenacin Succinate (YM905) is a novel muscarinic receptor antagonist with pK_is of 7.6±0.056, 6.9±0.034 and 8.0±0.021 for M1, M2 and M3 receptors, respectively. In murine submandibular gland cells, the antagonistic effects of 100 nM Solifenacin

	Succinate and oxybutynin on Ca^{2+} mobilization evoked by varying doses of carbachol (CCh) are examined. Solifenacin Succinate does not shift the CCh dose-activation curve in a parallel manner whereas oxybutynin shows insurmountable antagonism. The pK_b values are obtained as 7.4±0.17 for Solifenacin Succinate and 8.8±0.21 for oxybutynin[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Solifenacin Succinate (YM905) reduces bladder responses by 40% at a dose of 210 nmol/kg (0.1 mg/kg) and abolishes them at 2100 nmol/kg (1 mg/kg). In contrast, its inhibitory effects on salivary and cardiac responses are only slight at 630 nmol/kg (0.3 mg/kg), and reach 66% and 49%, respectively, at 2100 nmol/kg (1 mg/kg). At doses of 63 and 210 nmol/kg (0.03 and 0.1 mg/kg), Solifenacin Succinate slightly increases saliva secretion[1]. Solifenacin Succinate (0.01 to 0.3 mg/kg i.v.) dose-dependently increases bladder capacity and voided volume at doses of 0.03 mg/kg i.v. or more, but does not affect residual volume or micturition pressure at any dose tested[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Neurourol Urodyn. 2017 Apr;36(4):1026-1033.

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REFERENCES

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[3]. Hoffstetter S, Leong FC.Solifenacin succinate for the treatment of overactive bladder.Expert Opin Drug Metab Toxicol. 2009 Mar;5(3):345-50.

[4]. Choo MS, Lee JZ, Lee JB, Kim YH, Jung HC, Lee KS, Kim JC, Seo JT, Paick JS, Kim HJ, Na YG, Lee JG.Efficacy and safety of solifenacin succinate in Korean patients with overactive bladder: a randomised, prospective, double-blind, multicentre study.Int J Cli

[5]. Imamura T, et al.Combined treatment with a β3 -adrenergic receptor agonist and a muscarinic receptor antagonist inhibits detrusor overactivity induced by cold stress in spontaneously hypertensive rats. Neurourol Urodyn. 2017 Apr;36(4):1026-1033.

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