(R)-(+)-Bay-K-8644

Cat. No.: HY-15125

CAS No.: 98791-67-4

Molecular Formula: $C_{16}H_{15}F_3N_2O_4$

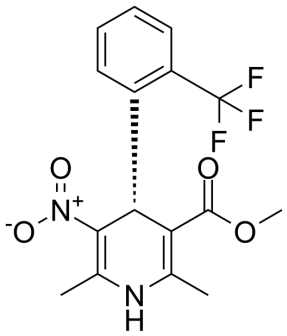
Molecular Weight: 356.3

Target: Calcium Channel

Pathway: Membrane Transporter/Ion Channel; Neuronal Signaling

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	2 years
	-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 300 mg/mL (841.99 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.8066 mL	14.0331 mL	28.0662 mL
5 mM	0.5613 mL	2.8066 mL	5.6132 mL
10 mM	0.2807 mL	1.4033 mL	2.8066 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (7.02 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: 2.5 mg/mL (7.02 mM); Suspended solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description

(R)-(+)-Bay-K-8644 is a calcium channel inhibitor. (R)-(+)-Bay-K-8644 inhibits Ba^{2+} currents (I_{Ba}) (IC_{50}=975 nM).

IC_{50} & Target

IC50: 975 nM (I_{Ba})[1]

In Vitro

(R)-(+)-Bay-K-8644, a conventional racemic mixture of Bay K 8644, is widely used as an L-type Ca^{2+} channel agonist. Each optical isomer possesses opposite effects on I_{Ba}, (R)-(+)-Bay-K-8644 as an antagonist and S(-)-Bay K 8644 as an agonist. (R)-(+)-Bay-K-8644 inhibits Ba^{2+} currents (I_{Ba}) (IC_{50}=975 nM). When (R)-(+)-Bay-K-8644 (0.5 μM) is applied, I_{Ba} is suppressed to 71±10% of control. In the presence of (R)-(+)-Bay-K-8644I_{Ba}[1]. (R)-(+)-Bay-K-8644 is a calcium channel inhibitor[2].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Zhu HL, et al. Antagonistic actions of S(-)-Bay K 8644 on cyclic nucleotide-induced inhibition of voltage-dependent Ba(2+) currents in guinea pig gastric antrum. Naunyn Schmiedebergs Arch Pharmacol. 2008 Dec;378(6):609-15.

[2]. Sidaway P, et al. L-type Ca2+ channel sparklets revealed by TIRF microscopy in mouse urinary bladder smooth muscle. PLoS One. 2014 Apr 3;9(4):e93803.

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