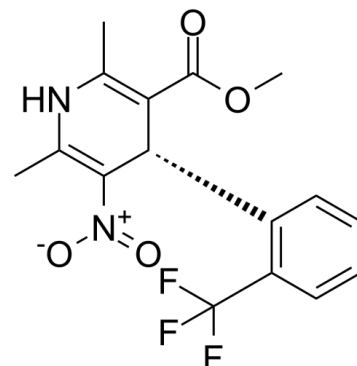


Data Sheet

Product Name:	(S)-(-)-Bay-K-8644
Cat. No.:	CS-3615
CAS No.:	98625-26-4
Molecular Formula:	C ₁₆ H ₁₅ F ₃ N ₂ O ₄
Molecular Weight:	356.30
Target:	Calcium Channel
Pathway:	Membrane Transporter/Ion Channel; Neuronal Signaling
Solubility:	DMSO : 125 mg/mL (350.83 mM; Need ultrasonic); H ₂ O : < 0.1 mg/mL (insoluble)



BIOLOGICAL ACTIVITY:

(S)-(-)-Bay-K-8644 is an agonist of L-type Ca^{2+} channel. (S)-(-)-Bay-K-8644 activates Ba^{2+} currents (I_{Ba}) ($\text{EC}_{50}=32$ nM). IC_{50} & Target: EC_{50} : 32 nM (I_{Ba})^[1] **In Vitro:** (\pm)-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. (S)-(-)-Bay-K-8644 can prevent the inhibitory actions of two distinct cyclic nucleotide pathways on I_{Ba} in gastric myocytes of the guinea pig antrum^[1]. The Ca^{2+} channel activity is enhanced by 3–30 μM (S)-(-)-Bay-K-8644 an agonist of L-type Ca^{2+} channels^[2]. The interactions of two Ca^{2+} channel activators (S)-(-)-Bay-K-8644 and FPL 64176 is examined on smooth muscle L-type Ca^{2+} channels. FPL 64176 (300 nM) causes a sustained contraction of rat tail artery strips. This contractile response is inhibited by approximately 70% by (S)-(-)-Bay-K-8644 ($\text{EC}_{50}=14$ nM). (S)-(-)-Bay-K-8644 (100 nM) increases whole-cell Ca^{2+} currents in A7r5 smooth muscle cells but effectively blocks further stimulation by 1 μM FPL 64176^[3].

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]. Mironov SL, et al. L-type Ca^{2+} channels in inspiratory neurones of mice and their modulation by hypoxia. J Physiol. 1998 Oct 1;512 (Pt 1):75-87.
- [3]. Rampe D, et al. Functional interactions between two Ca^{2+} channel activators, (S)-Bay K 8644 and FPL 64176, in smooth muscle. Mol Pharmacol. 1992 Apr;41(4):599-602.

CAIndexNames:

3-Pyridinecarboxylic acid, 1,4-dihydro-2,6-dimethyl-5-nitro-4-[2-(trifluoromethyl)phenyl]-, methyl ester, (4S)-

SMILES:

CC1=C([N+](O-)=O)[C@@H](C2=C(C(F)(F)F)C=CC=C2)C(C(OC)=O)=C(C)N1

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: 732-484-9848 Fax: 888-484-5008 E-mail: sales@ChemScene.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA