Flindokalner

Cat. No.: HY-108584

CAS No.: 187523-35-9

Molecular Formula: $C_{16}H_{10}ClF_4NO_2$

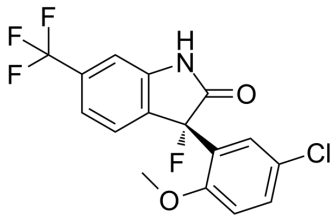
Molecular Weight: 359.7

Target: Potassium Channel

Pathway: Membrane Transporter/Ion Channel

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 : 100 mg/mL (278.01 mM; Need ultrasonic)

Preparing Stock Solutions	Concentration / Solvent / Mass	1 mg	5 mg	10 mg
	1 mM	2.7801 mL	13.9005 mL	27.8009 mL
	5 mM	0.5560 mL	2.7801 mL	5.5602 mL
	10 mM	0.2780 mL	1.3900 mL	2.7801 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 (6.95 mM); Suspended solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (6.95 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Flindokalner (BMS-204352) is a potassium channel modulator. Flindokalner is a positive modulator of all neuronal Kv7 channel subtypes expressed in HEK293 cells. Flindokalner is also a large conductance calcium-activated K channel (BKca) positive modulator. Flindokalner shows a negative modulatory activity at Kv7.1 channels (K_i=3.7 μM), and acts as a negative modulator of GABAA receptors. Flindokalner shows anxiolytic efficacy in vivo[1][2].

IC_{50} & Target

Ki: 3.7 μM (Kv7.1), 230 μM (Kv7.4), 605 μM (Kv7.5)[1]

In Vitro

Flindokalner (BMS-204352) (10 μM) inhibits Kv7.4and Kv7.5 with K_is of 230 and 605 μM, respectively[1].
Flindokalner (1-10 μM) causes inhibition of the Ca^{2+} current in a dose-dependent manner, with a Kd of 6 μM and a Hill coefficient of 1.33. Flindokalnerinhibits cardiac L-type Ca^{2+} channels in a direct manner, without affecting BKCa channels or

	intracellular signal transduction, in freshly isolated rat ventricular myocytes[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Flindokalner (BMS-204352) (3-30 mg/kg; i.p.) induces a dose-dependent anxiolytic effect[1]. In shock-based conditioned model of anxiety in male Wistar rats, Flindokalner (3-60 mg/kg; i.p.) engenderes an anxiolytic profile[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Female NMRI or male C57 mice (20-25 g) (Anxiolytic Models)[1]
Dosage:	i.p.
Administration:	3, 10, 30 mg/kg
Result:	Significantly and dose dependently increased time spent in the open areas, reduced latency to enter an open area, and increased the number of entries in to the open areas in Zero Maze.

REFERENCES

[1]. Korsgaard MP, et al. Anxiolytic effects of Maxipost (BMS-204352) and retigabine via activation of neuronal Kv7channels. J Pharmacol Exp Ther. 2005 Jul;314(1):282-92.

[2]. Son YK, et al. The inhibitory effect of Ca2+-activated K+ channel activator, BMS on L-type Ca2+ channels in rat ventricular myocytes. Life Sci. 2011 Aug 29;89(9-10):331-6.

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