For Research Use Only

WIN 55,212-2 Mesylate

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Catalog Number: CM15872

产品信息

Catalog Number:
CM15872

CAS号:
131543-23-2

分子式:
$C_{28}H_{30}N_2O_6S$

主要靶点:
Cannabinoid Receptor

主要通路:
G蛋白偶联受体

分子量:
522.61

溶解度:
DMSO:34 mg/mL

CAS No.: 131543-23-2

靶点活性

CB1(human recombinant):Ki: 62.3 nM|CB2(human recombinant):Ki: 3.3 nM

体外活性

WIN 55,212-2 is more potent in CHO-CB2 cells than in CHO-CB1 cells by a factor of 60. WIN 55,212-2 has no effect on arachidonic acid release in CHO-CB2 or control CHO cells. WIN 55,212-2 fails to stimulate any increase in intracellular Ca2+ up to 10 μM. In primary cultures of rat cerebral cortex neurons, WIN 55,212-2 (0.01--100 nM) increases extracellular glutamate levels, displaying a bell-shaped concentration-response curve. The facilitatory effect of WIN 55,212-2 (1 nM) is fully counteracted by SR141716A (10 nM), by the replacement of the normal Krebs Ringer-bicarbonate buffer with a low Ca2+ medium (0.2 mM) and by the IP(3) receptor antagonist xestospongin C (1 μM). WIN 55,212-2 evokes CGRP release from TG neurons in vitro (EC50=26 μM) in a concentration- and calcium-dependent manner. WIN 55,212-2-2 neither inhibits capsaicin-evokes CGRP release nor does it inhibit forskolin-, isoproteranol- or prostaglandin E2-stimulated cAMP accumulation. WIN 55,212-2 significantly inhibits (EC50=1.7 μM) 50 mm K+-evoked CGRP release by approximately 70%. WIN 55,212-2 inhibition of 50 mm K+-evoked CGRP release is not reversed by antagonists of cannabinoid type 1 (CB1) receptor. However, it is mimicks in magnitude and potency (EC50=2.7 μM) by its cannabinoid-inactive enantiomer WIN 55,212-2-3.

体内活性

In the prefrontal cortex WIN 55,212-2 (0.1 and 1 mg/kg i.p.) increases dialysate glutamate levels from of the awake rat, whereas the lower (0.01 mg/kg) and the higher (2 mg/kg) doses are ineffective. Moreover, the WIN 55,212-2 (0.1 mg/kg)-induced increase of dialysate glutamate levels is counteracted by pretreatment with the selective CB(1) receptor antagonist SR141716A (0.1 mg/kg, i.p.) and by the local perfusion with a low-calcium Ringer solution (Ca2+ 0.2 mM). WIN 55,212-2 (0.5, 1, 3, 5, 10 and 15 mg/kg, i.p.) does not alter the seizure threshold at low doses, while higher doses of the drug significantly increases the threshold in a dose-dependent manner. The anticonvulsant effect of WIN 55,212-2, which is observed with doses as high as 5 mg/kg, can be observed with doses as low as 0.5 mg/kg in groups pre-treated with 20 mg/kg of pioglitazone.

动物实验

WIN 55,212-2 is formulated in 1% aqueous solution of DMSO.In experiment 1, different doses of WIN 55,212-2 (0.5, 1, 3, 5, 10 and 15 mg/kg) are injected 60 min prior to the determination of clonic seizure threshold induced by intravenous administration of PTZ solution. Control animals receive the same volume of the vehicle (1% aqueous solution of DMSO). The doses and time point are chosen on the basis of pilot studies. In experiment 2, in order to confirm the anticonvulsant effects of pioglitazone, different doses (10, 20, 40 and 80 mg/kg) are administered 4 h prior to PTZ in distinct groups of mice. The corresponding control groupreceive the appropriate vehicle (CMC 1%) at the same time point. In experiment 3, The additive anti epileptic effects of WIN 55,212-2 and pioglitazone are examined; mice receive acute administration of pioglitazone (10 or 20 mg/kg) 3 h before WIN 55,212-2 (0.5 or 1 mg/kg) and 4 h before PTZ.

描述

WIN 55, 212-2 (Mesylate) is a potent aminoalkylindole cannabinoid (CB) receptor agonist with Kis of 62.3 and 3.3 nM for human recombinant CB1 and CB2 receptors, respectively. Cannabinoid analogue WIN 55,212-2 (Mesylate) exhibited a novel anticancer effect against human tumors.

储存

Powder: -20°C for 3 years | In solvent: -80°C for 2 years