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Ro 31-8220

Catalog No: tcsc1678

Available Sizes

Size: 10mg

Size: 50mg

Specifications

CAS No:
125314-64-9

Formula:
$C_{25}H_{23}N_5O_2S$

Pathway:
TGF-beta/Smad;Epigenetics

Target:
PKC;PKC

Purity / Grade:
>98%

Solubility:
10 mM in DMSO

Alternative Names:
Bisindolylmaleimide IX

Observed Molecular Weight:
457.55

Product Description

Ro 31-8220 is a potent **PKC** inhibitor, with **IC_{50}**s of 5, 24, 14, 27, 24 and 23 nM for PKCα, PKCβI, PKCβII, PKCγ, PKCε and rat brain PKC, respectively. Ro 31-8220 also significantly inhibits MAPKAP-K1b, MSK1, S6K1 and GSK3β (**IC_{50}**s, 3, 8, 15, and 38 nM,

respectively), with no effect on MKK3, MKK4, MKK6 and MKK7.

IC50 & Target: IC50: 5 nM (PKCα), 24 nM (PKCβI), 14 nM (PKCβII), 27 nM (PKCγ), 24 nM (PKCε), 23 nM (Rat brain PKC)[1], 3 nM (MAPKAP-K1b), 8 nM (MSK1), 15 nM (S6K1), 38 nM (GSK3β)[2]

In Vitro: Ro 31-8220 is a potent PKC inhibitor, with IC_{50}s of 5, 24, 14, 27, 24 and 23 nM for PKCα, PKCβI, PKCβII, PKCγ, PKCε and rat brain PKC, respectively[1]. Ro 31-8220 also significantly inhibits MAPKAP-K1b, MSK1, S6K1 and GSK3β (IC_{50}s, 3, 8, 15, and 38 nM, respectively), with no effect on MKK3, MKK4, MKK6 and MKK7. Moreover, Ro 31-8220 directly suppresses voltage-dependent Na^+ channels[2]. Ro 31-8220 (1 μM) is neuroprotective against paraoxon-induced neuronal cell death in cerebellar granule neurons, blocks paraoxon-induced caspase-3 activity, and reduces the paraoxon-induced increase in phospho-PKC pan levels[3].

In Vivo: Ro 31-8220 (6 mg/kg/d, s.c.) is well tolerated, and has half-life of 5.7 hours in mice. Ro 31-8220-treated $MLP^{-/-}$ mice show a dramatic rescue in fractional shortening after treatment for 6 weeks, but the WT mice shows no change[4].