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Kynurenic acid (sodium)

Catalog No: tcsc0028676

Available Sizes

Size: 100mg

Specifications

CAS No:
2439-02-3

Formula:
$C_{10}H_7NNaO_3$

Pathway:
Membrane Transporter/Ion Channel;Neuronal Signaling

Target:
iGluR;iGluR

Purity / Grade:
>98%

Solubility:
H2O :

Observed Molecular Weight:
212.16

Product Description

Kynurenic acid, an endogenous tryptophan metabolite, is a broad-spectrum antagonist targeting **NMDA, glutamate, α7 nicotinic acetylcholine receptor**. Kynurenic acid is also a selective ligand of the **GPR35** receptor.

IC50 & Target: Target: GPR35[1], NMDA, glutamate, glutamate, α7 nicotinic acetylcholine[2]

In Vitro: GPR35 functions as a receptor for the kynurenine pathway intermediate kynurenic acid. Kynurenic acid elicits calcium mobilization and inositol phosphate production in a GPR35-dependent manner in the presence of $G_{qi/o}$ chimeric G proteins. Kynurenic acid stimulates [^{35}S]guanosine 5′-O-(3-thiotriphosphate) binding in GPR35-expressing cells, an effect abolished by

pertussis toxin treatment. Kynurenic acid also induces the internalization of GPR35[1]. KYNA's neuroinhibitory qualities and its neuroprotective and anticonvulsant effects are discovered using concentrations of the compound in the millimolar range. This, as well as the low affinity of KYNA at each of the three ionotropic glutamate receptors responsible for these effects [NMDA, alpha-amino-3-hydroxy-5-methyl-4-isoxazole propionic acid (AMPA) and kainate], together with the realization that KYNA concentrations in the mammalian brain are in the sub-micromolar range, suggested that other receptors might serve as targets of endogenous Kynurenic acid. Kynurenic acid, with a shallower inhibition curve and non-competitively, antagonizes α7nAChRs on cultured hippocampal neurons with an IC_{50} in the low micromolar range[2].

In Vivo: Kynurenic acid affects the activity of leukocytes in the peripheral blood of mice, although the lowest one (2.5 mg/L) has the most profound influence in contrast to the highest one (250 mg/L), which produces the weakest effect. The lowest Kynurenic acid dose stimulates the proliferative response of T lymphocytes (p[3].