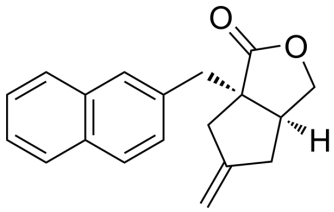
BAY 36-7620

Cat. No.:	HY-107513
CAS No.:	232605-26-4
Molecular Formula:	$C_{19}H_{18}O_2$
Molecular Weight:	278.35
Target:	mGluR
Pathway:	GPCR/G Protein; Neuronal Signaling
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

BAY 36-7620 is a potent and noncompetitive antagonist of mGlu1 Receptor (IC_{50}=0.16 μM) with inverse agonist activity. BAY 36-7620 inhibits tumor growth and prolongs the survival of mice with tumors by inhibiting mGlu1 receptor. BAY 36-7620 suppresses AKT phosphorylation in A549 tumors. BAY 36-762 has neuroprotective effect in acute subdural hematoma rat model.BAY 36-7620 is used in non-small cell lung cancer and breast cancer research[1][2][3][4].

IC_{50} & Target

mGluR 1	mGluR1a	mGluR2	mGluR 5
0.16 μM (IC_{50})	0.38 μM (IC_{50})	0.14 μM (IC_{50})	0.24 μM (IC_{50})

In Vitro

BAY 36-7620 (0.1-10 μM) completely inhibits mGlu1 receptors 10 μM in HEK 293 Cells[1].
BAY 36-7620 (10-25 μM, 4 days) reduces cell proliferation and inhibits tumor-related protein expression in A549 cells[2].
BAY 36-7620 (72 h) inhibits MCF-7, T-47D, BT-474, MDA-MB-231, Hs578T and BT-549 cell growth and proliferation with IC_{50}s of 27.7, 37.1, 20.8, 41.0, 21.0 and 15.7μM, respectively[3].
BAY 36-7620 (25-50 μM, 24-72 h) causes DNA damage and induces modest G2/M arrest in T-47D, BT-474, MDA-MB-231, and BT-549 cell lines[3].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Western Blot Analysis[2]

Cell Line:	A549 cell line
Concentration:	10, 25 μM
Incubation Time:	Overnight
Result:	Enhanced the expression of cleaved PARP and reduced bcl-2 protein expression. Reduced the expression of HIF-1α protein and HIF activity. Reduced the secretion of VEGF and IL-8 into supernatants.

Cell Proliferation Assay[3]

Cell Line:	T MCF-7, T-47D, BT-474, MDA-MB-231, Hs578T and BT-549 cell line
Concentration:	50 μM
Incubation Time:	72 h

Result:	Decreased the percentage of proliferating cells in all breast cancercell line.

In Vivo

BAY 36-7620 (5-10 mg/kg for i.p; once daily for 24 days) inhibits tumor growth and prolongs the survival of Lung tumors mice model [2].

BAY 36-7620 (0.01-0.03 mg/kg for i.v.; 4 h) has neuroprotective effect in acute subdural hematoma rat model[4].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Lung tumors mice model[2]
Dosage:	5, 10 mg/kg
Administration:	Intraperitoneal injection (i.p.); Once daily for 24 days
Result:	Suppressed tumor growth in athymic mice with lung tumors. Prolonged the survival of inoculated mice when compared to control group. Decreased the level of AKT phosphorylation in A549 tumors.

Animal Model:	Subdural hematoma rat model[4]
Dosage:	0-3 mg/kg
Administration:	Intravenous injection (i.v.); 4 h
Result:	Had neuroprotective effect with the efficacy of 40–50% at 0.01 and 0.03 mg/kg.

REFERENCES

[1]. Carroll FY, et al. BAY36-7620: a potent non-competitive mGlu1 receptor antagonist with inverse agonist activity. Mol Pharmacol. 2001 May;59(5):965-73.

[2]. Xia H, et al. Inhibition of metabotropic glutamate receptor 1 suppresses tumor growth and angiogenesis in experimental non-small cell lung cancer. Eur J Pharmacol. 2016 Jul 15;783:103-11.

[3]. Dolfi SC, et al. Riluzole exerts distinct antitumor effects from a metabotropic glutamate receptor 1-specific inhibitor on breast cancer cells. Oncotarget. 2017 Jul 4;8(27):44639-44653.

[4]. De Vry J, et al. Neuroprotective and behavioral effects of the selective metabotropic glutamate mGlu(1) receptor antagonist BAY 36-7620. Eur J Pharmacol. 2001 Oct 5;428(2):203-14.

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

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com

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