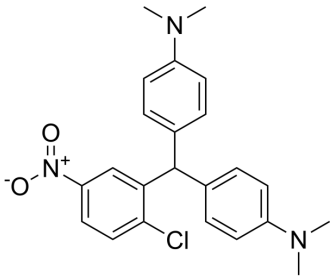
AL 082D06

Cat. No.:	HY-15709
CAS No.:	256925-03-8
Molecular Formula:	$C_{23}H_{24}ClN_3O_2$
Molecular Weight:	409.91
Target:	Glucocorticoid Receptor
Pathway:	Immunology/Inflammation; Vitamin D Related/Nuclear Receptor
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 : 7.5 mg/mL (18.30 mM; Need ultrasonic and warming)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.4396 mL	12.1978 mL	24.3956 mL
	5 mM	0.4879 mL	2.4396 mL	4.8791 mL
	10 mM	0.2440 mL	1.2198 mL	2.4396 mL

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

AL 082D06 is a selective, nonsteroidal glucocorticoid receptor (GR) antagonist with K_i of 210 nM.

IC_{50} & Target

Ki: 210 nM (GR)[1]

In Vitro

AL 082D06 (D06) binds specifically to GR with nanomolar affinity. Addition of AL 082D06 causes a dose-dependent decrease in transcriptional activation from the MMTV:Luc reporter stimulated with half-maximal DEX concentrations. AL 082D06 acts to antagonize reporter activity using several glucocorticoid-responsive promoter- reporter systems including the 3-kb tyrosine amino transferase (TAT) promoter and less complex promoters comprised of isolated glucocorticoid response element (GRE) sequences. AL 082D06 competes with ^{3}H-Dex for baculovirus-expressed GR with nanomolar affinity. Other intracellular receptors (AR, ER, PR, and MR) have no affinity for AL 082D06 in a similarly structured binding assay with the appropriate receptor and tritiated ligand (>2500 nM). AL 082D06 has no activation efficacy on the progesterone, androgen, mineralocorticoid, retinoid, glucocorticoid, or estrogen receptors. AL 082D06 is very efficacious at antagonizing GR activity but exhibits much weaker efficacy when tested against the other steroid receptors in contrast to the reference antagonists used as controls[1].

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

PROTOCOL

Kinase Assay [1]

The extract and binding assay buffer consists of 25 mM sodium phosphate, 10 mM potassium fluoride, 10 mM sodium molybdate, 10% glycerol, 1.5 mM EDTA, 2 mM dithiothreitol, 2 mM CHAPS, and 1 mM phenylmethylsulfonyl fluoride (pH 7.4), at room temperature. Intracellular receptors produced in this fashion exhibit reproducible interaction with known ligands at the published affinity. These preparations are subjected to extensive quality control experiments before the assays, covering receptor response, specificity, size, and reference ligand affinity. Receptor assays are performed with a final volume of 250 μL containing from 50-75 μg of extract protein, plus 1-2 nM [^{3}H]Dex at 84 Ci/mmol and varying concentrations of competing ligand (0 to 10 μM). Assays are set up using a 96-well minitube system, and incubations are carried out at 4°C for 18 h. Equilibrium under these conditions of buffer and temperature is achieved by 6-8 h. Nonspecific binding is defined as that binding remaining in the presence of 1000 nM unlabeled Dex. At the end of the incubation period, 200 μL of 6.25% hydroxyapatite are added in wash buffer (binding buffer in the absence of dithiothreitol and phenylmethylsulfonyl fluoride). Specific ligand binding to receptor is determined by a hydroxyapatite-binding assay. Hydroxyapatite absorbs the receptor-ligand complex, allowing for the separation of bound from free radiolabeled ligand. The mixture is vortexed and incubated for 10 min at 4°C and centrifuged, and the supernatant is removed. The hydroxyapatite pellet is washed two times in wash buffer. The amount of receptor-ligand complex is determined by liquid scintillation counting of the hydroxyapatite pellet after the addition of 0.5 mM EcoScint A scintillation cocktail from National Diagnostics[1].

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

CUSTOMER VALIDATION

- Biochem Pharmacol. 2018 Sep;155:275-287.
- Int Immunopharmacol. 2023 Sep 7;124(Pt A):110899.
- Br J Pharmacol. 2022 May 1.

See more customer validations on www.MedChemExpress.com

REFERENCES

[1]. Miner JN, et al. A nonsteroidal glucocorticoid receptor antagonist. Mol Endocrinol. 2003 Jan;17(1):117-27.

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