

Product Data Sheet

Product Name: Mifepristone

Cat. No.: GC11637

Chemical Properties

Cas. No. 84371-65-3

Chemical Name (8S,11R,13S,14S,17S)-11-[4-(dimethylamino)phenyl]-17-hydroxy-13-methyl-17-prop-1-ynyl-1,2,6,7,8,11,12,14,15,16-decahydrocyclopenta[a]phenanthren-3-one

SMILES CC#CC1(CCC2C1(CC(C3=C4CCC(=O)C=C4CCC23)C5=CC=C(C=C5)N(C)C)C)O

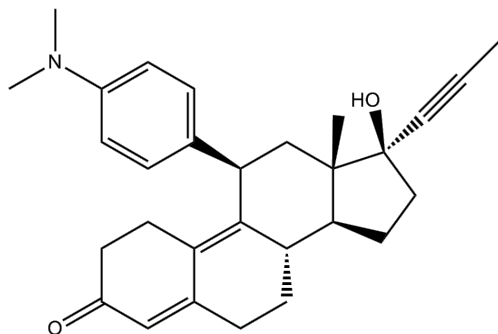
Formula $C_{29}H_{35}NO_2$ M.Wt 429.59

Solubility ≥ 21.4795 mg/mL in DMSO, ≥ 21.45 mg/mL in EtOH with gentle warming Storage Store at 2-8°C

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution: ship with blue ice All other available size: ship with RT, or blue ice upon request.

Structure



Protocol

Cell experiment [1]:

Cell lines SK-OV-3, OV2008, IGROV-1, OV2008 cells

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

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA

Product Data Sheet

Subjected various ovarian cancer cell lines (SK-OV-3, Caov-3, IGROV-1, and Preparation Method OV2008) to a fixed, 20 μ M concentration of mifepristone for 3 days, with the compound being replaced every 24 h.

Reaction
Conditions 20 μ M; 72h

Applications In all cell lines, exposure to 20 μ M mifepristone for 24 h was sufficient to arrest cell growth, with effects lasting for 3 days.

Animal experiment [2]:

Animal models Male C57BL/6 mice

Preparation Method Mifepristone was dissolved in 0.9% NaCl, 0.25% carboxymethylcellulose, 0.2% Tween 20. Male C57BL/6 mice were housed in an enriched environment(EE) or control housing and received daily oral gavage of mifepristone (200 mg/kg body weight) or vehicle control for 1 week.

Dosage form 200mg/kg; p.o.

Applications Mifepristone completely blocked the EE-induced reduction of the CD4:CD8 T-cell ratio in the secondary lymphoid tissue (SLT).

References:

[1] Goyeneche A A, Caron R W, Telleria C M. Mifepristone inhibits ovarian cancer cell growth in vitro and in vivo[J]. Clinical Cancer Research, 2007, 13(11): 3370-3379.

[2] Xiao R, Bergin S M, Huang W, et al. Environmental and genetic activation of hypothalamic BDNF modulates T-cell immunity to exert an anticancer phenotype[J]. Cancer immunology research, 2016, 4(6): 488-497.

Background

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

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA

Product Data Sheet

Mifepristone (RU486) is an orally effective progesterone (PR) receptor and glucocorticoid receptor (GR) antagonist used as an abortion drug with in vitro IC_{50} values of 0.2nM and 2.6nM, respectively [1]. Mifepristone is an antiprogesterin that blocks the effects of progesterone, causing cervical and uterine vasodilation and uterine contractions [2]. Mifepristone can also be used to treat depression and improve neurocognitive function and mood [3].

In vitro, treatment of ovarian cancer SK-OV-3, OV2008, IGROV-1 and OV2008 cells with mifepristone (20 μ M) completely blocked cell growth at 24h, and the effect lasted for 3 days [4]. Treatment of human gastric adenocarcinoma MKN-45 cells with mifepristone (5, 10, 20 μ M) dose-dependently inhibited heterotypic adhesion of cells to matrix gel, accompanied by downregulation of integrin β 3 expression in cells [5].

In vivo, oral treatment of C57BL/6 mice with mifepristone (200 mg/kg) for 1 week completely blocked the reduction in the CD4:CD8 T cell ratio in secondary lymphoid tissue (SLT) induced by enriched environment (EE)[6]. Mifepristone (25 mg/kg) treated by subcutaneous injection for 14 days in depression model rats improved interleukin 1 β (IL-1 β)-induced depressive-like behavior and regulated the function of microglia and astrocytes[7].

References:

- [1] Jiang W, Allan G, Fiordeliso J J, et al. New progesterone receptor antagonists: phosphorus-containing 11 β -aryl-substituted steroids[J]. Bioorganic & medicinal chemistry, 2006, 14(19): 6726-6732.
- [2] Ashok P W, Wagaarachchi P T, Templeton A. The antiprogesterone mifepristone: a review[J]. Current Medicinal Chemistry-Immunology, Endocrine & Metabolic Agents, 2002, 2(2): 71-90.
- [3] Young A H, Gallagher P, Watson S, et al. Improvements in neurocognitive function and mood following adjunctive treatment with mifepristone (RU-486) in bipolar disorder[J]. Neuropsychopharmacology, 2004, 29(8): 1538-1545.
- [4] Goyeneche A A, Caron R W, Telleria C M. Mifepristone inhibits ovarian cancer cell growth in vitro and in vivo[J]. Clinical Cancer Research, 2007, 13(11): 3370-3379.
- [5] Li D Q, Wang Z B, Bai J, et al. Effects of mifepristone on invasive and metastatic potential of human gastric adenocarcinoma cell line MKN-45 in vitro and in vivo[J]. World Journal of Gastroenterology: WJG, 2004, 10(12): 1726.
- [6] Xiao R, Bergin S M, Huang W, et al. Environmental and genetic activation of hypothalamic BDNF

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

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA

Product Data Sheet

modulates T-cell immunity to exert an anticancer phenotype[J]. Cancer immunology research, 2016, 4(6): 488-497.

[7] Zhang Y P, Wang H Y, Zhang C, et al. Mifepristone attenuates depression-like changes induced by chronic central administration of interleukin-1 β in rats[J]. Behavioural brain research, 2018, 347: 436-445.

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

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA