Megestrol acetate

Cat. No.: HY-13676

CAS No.: 595-33-5

Molecular Formula: $C_{24}H_{32}O_4$

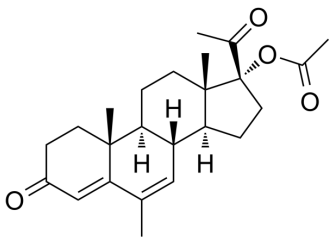
Molecular Weight: 384.51

Target: Progesterone Receptor; Autophagy; HIV

Pathway: Vitamin D Related/Nuclear Receptor; Autophagy; Anti-infection

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 : 20 mg/mL (52.01 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.6007 mL	13.0036 mL	26.0071 mL
	5 mM	0.5201 mL	2.6007 mL	5.2014 mL
	10 mM	0.2601 mL	1.3004 mL	2.6007 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2 mg/mL (5.20 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2 mg/mL (5.20 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2 mg/mL (5.20 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Megestrol acetate is a synthetic and orally active progesteronal agent. Megestrol acetate is effective as an appetite stimulant for wasting syndromes such as cachexia. Megestrol acetate decreases nuclear and cytosol androgen receptors human BPH tissue. Megestrol acetate has the potential for HIV study and downregulates autophagic catabolic pathway[1][2][3][4][5].

In Vitro

Megestrol acetate alone results in an ICKY of 48.7 p,M in the MCF7/ADR cell line[2].

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

In Vivo

Megestrol acetate (100 or 300 mg/kg, Subcutaneously daily over a 7-day period) is able to reduce the weight loss produced by both TNF and by the MAC16 tumour[1].

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

Animal Model:	Pure strain female NMRI mice (age 6 to 8 weeks)[1].
Dosage:	100 or 300 mg/kg (50 mg megestrol acetate was suspended in 3 ml of pure corn oil).
Administration:	Subcutaneously daily over a 7-day period.
Result:	Produced a highly significant reversal of the TNF-induced decrease in body weight, accompanied by a significant increase in both food and water intake. Caused an increase in body weight over a 24-hour period to female NMRI mice. No effect on blood glucose levels in saline controls, concurrent administration of megestrol acetate with TNF caused a significant increase in blood glucose compared with administration of TNF alone. Caused a dose-related reduction in the loss of host body weight in animals bearing the MAC16 tumour.

CUSTOMER VALIDATION

- Eur J Pharm Biopharm. 2020 Jan;146:84-92.

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REFERENCES

[1]. S A Beck, et al. Effect of megestrol acetate on weight loss induced by tumour necrosis factor alpha and a cachexia-inducing tumour (MAC16) in NMRI mice. Br J Cancer. 1990 Sep;62(3):420-4.

[2]. L Panasci, et al. Sensitization to doxorubicin resistance in breast cancer cell lines by tamoxifen and megestrol acetate. Biochem Pharmacol. 1996 Oct 11;52(7):1097-102.

[3]. J Geller, et al. Acute therapy with megestrol acetate decreases nuclear and cytosol androgen receptors in human BPH tissue. Prostate. 1982;3(1):11-5.

[4]. J H von Roenn, et al. Megestrol acetate for treatment of cachexia associated with human immunodeficiency virus (HIV) infection. Ann Intern Med. 1988 Nov 15;109(10):840-1.

[5]. Vincenzo Musolino, et al. Megestrol acetate improves cardiac function in a model of cancer cachexia-induced cardiomyopathy by autophagic modulation. J Cachexia Sarcopenia Muscle. 2016 Dec;7(5):555-566.

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

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