

# Product data sheet



MedKoo Cat#: 561649 Name: Nomegestrol CAS: 58691-88-6 Chemical Formula: C <sub>21</sub> H <sub>28</sub> O <sub>3</sub> Exact Mass: 328.2038 Molecular Weight: 328.452		
Product supplied as:	Powder	
Purity (by HPLC):	≥ 98%	
Shipping conditions	Ambient temperature	
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years. In solvent: -80°C 3 months; -20°C 2 weeks.	

## 1. Product description:

Nomegestrol is a progestin, or a synthetic progestogen, which was first introduced in the mid-1980s and is used in the treatment of gynecological disorders, in menopausal hormone therapy for the treatment of menopausal symptoms, and in hormonal contraceptives.

## 2. CoA, QC data, SDS, and handling instruction

SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under “QC And Documents” section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

## 3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
TBD	TBD	TBD

## 4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	3.04 mL	15.22 mL	30.45 mL
5 mM	0.61 mL	3.04 mL	6.09 mL
10 mM	0.30 mL	1.52 mL	3.04 mL
50 mM	0.06 mL	0.30 mL	0.61 mL

## 5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator

Please refer the product web page under section of “Calculator”

## 6. Recommended literature which reported protocols for in vitro and in vivo study

### In vitro study

1. Tocchetti GN, Domínguez CJ, Zecchinati F, Arana MR, Ruiz ML, Villanueva SSM, Mottino AD, Weiss J, Rigalli JP. Inhibition of multidrug resistance-associated protein 2 (MRP2) activity by the contraceptive nomegestrol acetate in HepG2 and Caco-2 cells. Eur J Pharm Sci. 2018 Sep 15;122:205-213. doi: 10.1016/j.ejps.2018.07.017. Epub 2018 Jul 6. PMID: 29981893.

2. Ma AY, Xie SW, Zhou JY, Zhu Y. Nomegestrol Acetate Suppresses Human Endometrial Cancer RL95-2 Cells Proliferation In Vitro and In Vivo Possibly Related to Upregulating Expression of SUFU and Wnt7a. Int J Mol Sci. 2017 Jun 22;18(7):1337. doi: 10.3390/ijms18071337. PMID: 28640224; PMCID: PMC5535830.

### In vivo study

1. Zhong R, Yang W, Li G, Xie S, Guo X, Zhou J, Ren B, Zhu Y. Nomegestrol acetate ameliorated adipose atrophy in a rat model of cisplatin-induced cachexia. Exp Ther Med. 2022 Nov 23;25(1):24. doi: 10.3892/etm.2022.11723. PMID: 36561625; PMCID: PMC9748651.

2. van Diepen HA, Lam TW, Kuil CW. Nomegestrol acetate: steroid receptor transactivation profile in Chinese hamster ovary cells and ovulation inhibition in rat and monkey. Contraception. 2011 Aug;84(2):199-204. doi: 10.1016/j.contraception.2010.11.017. Epub 2011 Jan 20. PMID: 21757063.

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## 7. Bioactivity

### Biological target:

Nomegestrol is a potent and orally available progestin, acts as a selective full progesterone receptor agonist, with a K<sub>d</sub> of 5.44 nM for rat uterine progesterone receptor.

### In vitro activity

The aim of this work was to evaluate the effect of NMGA on MRP2 activity in HepG2 and Caco-2 cells as models of human hepatocytes and enterocytes, respectively. NMGA (5, 50 and 500 nM; 48 h) decreased MRP2-mediated transport of 2,4-dinitrophenyl-S-glutathione in HepG2 cells, with no effect on MRP2 protein expression.

Reference: Eur J Pharm Sci. 2018 Sep 15;122:205-213. <https://pubmed.ncbi.nlm.nih.gov/29981893/>

### In vivo activity

NOMAc (nomegestrol acetate) (2.5, 5 mg/kg) and MA (10 mg/kg) were able to significantly ameliorate the loss of body weight in the cisplatin-induced cachectic rats. NOMAc significantly reduced the serum levels of TNF- $\alpha$  at 10 mg/kg. Morphologically, iWAT atrophy, with a remarkable reduction in adipocyte volume, was observed in the cisplatin-induced cachectic rats, but the effects were reversed by administering 5, 10 mg/kg NOMAc or 10 mg/kg MA.

Reference: Exp Ther Med. 2022 Nov 23;25(1):24. <https://pubmed.ncbi.nlm.nih.gov/36561625/>

*Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.*