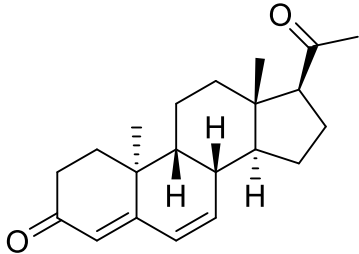


# Product data sheet



MedKoo Cat#: 317761 Name: Dydrogesterone CAS: 152-62-5 Chemical Formula: C <sub>21</sub> H <sub>28</sub> O <sub>2</sub> Exact Mass: 312.2089 Molecular Weight: 312.453		
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:

Dydrogesterone is a synthetic progestin. Dydrogesterone alone or in combination with estrogen to endothelial cells results in neutral effects on NO synthesis and on the activity and expression of eNOS. Unlike many other progestational compounds, dydrogesterone produces no increase in temperature and does not inhibit ovulation.

## 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
DMSO	47.67	152.55
Ethanol	62.0	198.43

## 4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	3.20 mL	16.00 mL	32.01 mL
5 mM	0.64 mL	3.20 mL	6.40 mL
10 mM	0.32 mL	1.60 mL	3.20 mL
50 mM	0.06 mL	0.32 mL	0.64 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. Fu XD, Garibaldi S, Gopal S, Polak K, Palla G, Spina S, Mannella P, Genazzani AR, Genazzani AD, Simoncini T. Dydrogesterone exerts endothelial anti-inflammatory actions decreasing expression of leukocyte adhesion molecules. *Mol Hum Reprod.* 2012 Jan;18(1):44-51. doi: 10.1093/molehr/gar062. Epub 2011 Oct 4. PMID: 21971309.
2. Rižner TL, Brožič P, Doucette C, Turek-Etienne T, Müller-Vieira U, Sonneveld E, van der Burg B, Böcker C, Husen B. Selectivity and potency of the retroprogesterone dydrogesterone in vitro. *Steroids.* 2011 May;76(6):607-15. doi: 10.1016/j.steroids.2011.02.043. Epub 2011 Mar 3. PMID: 21376746.

### In vivo study

1. Jiang YX, Shi WJ, Hu LX, Ma DD, Zhang H, Ong CN, Ying GG. Dydrogesterone disrupts lipid metabolism in zebrafish brain: A study based on metabolomics and Fourier transform infrared spectroscopy. *Environ Pollut.* 2023 Jan 15;317:120811. doi: 10.1016/j.envpol.2022.120811. Epub 2022 Dec 2. PMID: 36470458.
2. Joachim R, Zenclussen AC, Polgar B, Douglas AJ, Fest S, Knackstedt M, Klapp BF, Arck PC. The progesterone derivative dydrogesterone abrogates murine stress-triggered abortion by inducing a Th2 biased local immune response. *Steroids.* 2003 Nov;68(10-13):931-40. doi: 10.1016/j.steroids.2003.08.010. PMID: 14667986.

# Product data sheet



## 7. Bioactivity

### Biological target:

Dydrogesterone is a potent, orally active progestogen indicated in a wide variety of gynaecological conditions related to progesterone deficiency.

### In vitro activity

This study found that dydrogesterone resembled progesterone mainly in its progestogenic effects and less in its androgenic, anti-androgenic, glucocorticoid and antiglucocorticoid effects; whereas, 20 $\alpha$ -dihydrodydrogesterone showed reduced progestogenic potency with no androgenic, glucocorticoid and mineralocorticoid effects.

Reference: Steroids. 2011 May;76(6):607-15. <https://pubmed.ncbi.nlm.nih.gov/21376746/>

### In vivo activity

On gestation Day 13, a highly elevated abortion rate was detected in stressed mice compared to control mice. Stressed animals presented lower levels of progesterone and PIBF in plasma and a reduced staining intensity of progesterone receptor at the fetomaternal interface. Injection of dydrogesterone abrogated the effect of stress on the abortion rate. Further, dydrogesterone increased levels of plasma PIBF in stressed mice, but did not affect progesterone levels. Interestingly, dydrogesterone dramatically increased the percentage of IL-4 positive decidual immune cells in stressed mice. These data suggest that dydrogesterone abrogates stress-triggered abortion by inducing a Th2 biased local immune response.

Reference: Steroids. 2003 Nov;68(10-13):931-40. <https://pubmed.ncbi.nlm.nih.gov/14667986/>

*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.*