

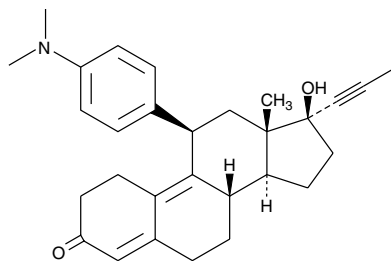
# Product Information



## Mifepristone

Item No. 10006317

**CAS Registry No.:** 84371-65-3  
**Formal Name:** 11 $\beta$ -[4-(dimethylamino)phenyl]-17 $\beta$ -hydroxy-17-(1-propynyl)-estra-4,9-dien-3-one  
**Synonym:** RU-486  
**MF:** C<sub>29</sub>H<sub>35</sub>NO<sub>2</sub>  
**FW:** 429.6  
**Purity:**  $\geq$ 98%  
**Stability:**  $\geq$ 2 years at -20°C  
**Supplied as:** A crystalline solid



### Laboratory Procedures

For long term storage, we suggest that mifepristone be stored as supplied at -20°C. It should be stable for at least two years.

Mifepristone is supplied as a crystalline solid. A stock solution may be made by dissolving the mifepristone in an organic solvent purged with an inert gas. Mifepristone is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of mifepristone in these solvents is at least 20 mg/ml.

Mifepristone is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, mifepristone should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Mifepristone has a solubility of 0.2 mg/ml in a 1:4 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Progesterone is responsible for preparing the uterine lining for implantation of a fertilized ovum and to maintain pregnancy, eliciting its action through the nuclear progesterone receptor (PR). Mifepristone is a potent PR and glucocorticoid receptor (GR) antagonist with K<sub>i</sub> values of approximately 1 nM.<sup>1</sup> It is used in combination with misoprostol for the oral induction of first trimester abortions.<sup>1</sup> Mifepristone promotes efficient binding of PR to hormone response elements (HRE) on DNA, but prevents transcriptional activation of the receptor.<sup>2-4</sup> The IC<sub>50</sub> of mifepristone for PR dimerization and activation is 0.6 nM; the IC<sub>50</sub> for mifepristone-induced competitive binding of wildtype PR with a constitutively active PR for HRE is 0.01 nM.<sup>2</sup> In anti-estrogen-resistant breast cancer cells, mifepristone induces growth arrest, caspase activation, and cell death, indicating the effectiveness of PR antagonism as a novel approach to treatment of select cancers.<sup>5</sup>

### References

1. Cadepond, F., Ulmann, A., and Baulieu, E.-E. RU486 (mifepristone): Mechanisms of action and clinical uses. *Annu. Rev. Med.* **48**, 129-156 (1997).
2. Delabre, K., Guiochon-Mantel, A., and Milgrom, E. *In vivo* evidence against the existence of antiprogestins disrupting receptor binding to DNA. *Proc. Natl. Acad. Sci. USA* **90**, 4421-4425 (1993).
3. Beck, C.A., Estes, P.A., Bona, B.J., *et al.* The steroid antagonist RU486 exerts different effects on the glucocorticoid and progesterone receptors. *Endocrinology* **133**(2), 728-740 (1993).
4. Edwards, D.P., Altmann, M., DeMarzo, A., *et al.* Progesterone receptor and the mechanism of action of progesterone antagonists. *J. Steroid Biochem. Molec. Biol.* **53**(1-6), 449-458 (1995).
5. Gaddy, V.T., Barrett, J.T., Delk, J.N., *et al.* Mifepristone induces growth arrest, caspase activation, and apoptosis of estrogen receptor-expressing, antiestrogen-resistant breast cancer cells. *Clinical Cancer Research* **10**, 5215-5225 (2004).

### Related Products

For a list of related products please visit: [www.caymanchem.com/catalog/10006317](http://www.caymanchem.com/catalog/10006317)

**WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY. NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.**

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