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ProductInformation

Mifepristone

Product Number **M 8046**
Storage Temperature 2-8 °C

Product Description
Molecular Formula: $C_{29}H_{35}NO_2$
Molecular Weight: 429.6
CAS Number: 84371-65-3
Melting Point: 150 °C[1]
Specific Rotation: +138.5°
(5 mg/ml, chloroform, 20 °C)[1]
Synonyms: (11α,17β)-11-[4-(dimethylamino)phenyl]-17-hydroxy-17-(1-propynyl)estra-4,9-dien-3-one; 11β-[4-(*N*,*N*-dimethylamino)phenyl]-17α-(prop-1-ynyl)-$\Delta^{4,9}$-estradiene-17β-ol-3-one; RU-38486, RU-486[1]

Mifepristone is a progesterone receptor antagonist which also has partial agonist activity. It also has a high affinity for glucorticoid receptors.[1,2] A review of gene expression patterns in a human breast cancer cell line after treatment with various glucocorticoids and progestins, including mifepristone, has been published.[3] The role of mifepristone in suppressing activation of NFαB in studies of endometriosis has been discussed.[4] The inactivation by mifepristone of cytochrome P-450 3A4 isozyme has been studied.[5]

Mifepristone has been shown to block the ability of progesterone to cause increased expression of myelin basic protein in organotypic slice cultures of rat cerebellum.[6] A study of cultured prostate cancer cells and mice with prostate cancer xenografts has indicated that mifepristone administration led to TGFβ1 secretion and apoptosis.[7] Mifepristone (20 μM) has been shown to prevent apoptosis in Purkinje cells derived from organotypic slice cultures of postnatal rat and mouse cerebellum.[8] The use of the mifepristone (Mfp)-inducible gene regulatory system in mouse models of transgenic models and gene knockout models has been reviewed.[9]

The diffusion and release of mifepristone from biodegradable poly [(D,L) lactide-co-glycolide)] matrices has been studied.[10]

Precautions and Disclaimer
For Laboratory Use Only. Not for drug, household or other uses.

Preparation Instructions
This product is soluble in ethanol (50 mg/ml), with heat as needed, yielding a clear, yellow-green solution.

References
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4. Sidell, N., et al., Regulation and modulation of abnormal immune responses in endometriosis. Ann. NY Acad. Sci., **955**, 159-73 (discussion: 199-200, 396-406) (2002).
5. He, K., et al., Mechanism-based inactivation of cytochrome P-450-3A4 by mifepristone (RU486). J. Pharmacol. Exp. Ther., **288(2)**, 791-797 (1999).
6. Ghoumari, A. M., et al., Progesterone and its metabolites increase myelin basic protein expression in organotypic slice cultures of rat cerebellum. J. Neurochem., **86(4)**, 848-859 (2003).
7. Liang, Y., et al., Mifepristone-induced secretion of transforming growth factor β1-induced apoptosis in prostate cancer cells. Int. J. Oncol., **21(6)**, 1259-1267 (2002).
8. Ghoumari, A. M., et al., Mifepristone (RU486) protects Purkinje cells from cell death in organotypic slice cultures of postnatal rat and mouse cerebellum. Proc. Natl. Acad. Sci. USA, **100(13)**, 7953-7958 (2003).

9. Ngan, E. S, et al., The mifepristone-inducible gene regulatory system in mouse models of disease and gene therapy. Semin. Cell. Dev. Biol., **13(2)**:143-149 (2002).

10. Charlier, A., et al., Release of mifepristone from biodegradable matrices: experimental and theoretical evaluations. Int. J. Pharm., **200(1)**, 115-120 (2000).

GCY/JRC 11/03