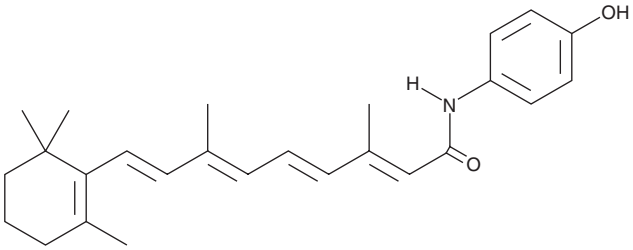
PRODUCT INFORMATION

Fenretinide

Item No. 17688

CAS Registry No.:	65646-68-6
Formal Name:	N-(4-hydroxyphenyl)-retinamide
Synonyms:	4-HPR, 4-Hydroxy(phenyl)retinamide, MK-4016, Retinoic Acid *p*-hydroxyphenylamide, Ro 22-4667
MF:	$C_{26}H_{33}NO_2$
FW:	391.6
Purity:	≥98%
UV/Vis.:	λ_{max}: 363 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Fenretinide is supplied as a crystalline solid. A stock solution may be made by dissolving the fenretinide in the solvent of choice. Fenretinide is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of fenretinide in these solvents is approximately 10 mg/ml.

Fenretinide is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, fenretinide should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. Fenretinide has a solubility of approximately 0.3 mg/ml in a 1:2 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Fenretinide is a synthetic derivative of retinoic acid (Item No. 11017) and an inhibitor of dihydroceramide desaturase (IC_{50} = 2.32 µM).[1] It promotes the generation of reactive oxygen species (ROS), the degradation of anti-apoptotic MCL-1, and the cleavage of pro-apoptotic PKCδ.[2] At 5-20 µM, fenretinide selectively activates retinoic acid receptor γ (RARγ) and is reported to inhibit the growth of Caov-3, OVCAR-3, and SKOV3 ovarian cancer cells with IC_{50} values of 3.7, 6.9, and 8.2 µM, respectively.[3,4] It also increases activity of serine palmitoyl transferase (SPT) by 1.75-fold and induces caspase-dependent apoptosis in BMEC cells (IC_{50} = 2.4 µM).[5] Fenretinide prevents lipid-induced reductions in insulin-stimulated glucose uptake in isolated rat soleus muscle.[6] *In vivo*, fenretinide (10 mg/ml in drinking water) reduces liver and soleus muscle neutral lipid content and inhibits high-fat diet-induced increases in dihydroceramide desaturase transcription.[6]

References

1. Rahmaniyan, M., Curley, R.W., Jr., Obeid, L.M., *et al. J. Biol. Chem.* **286(28)**, 24754-24764 (2011).
2. Ruvolo, V.R., Karanjeet, K.B., Schuster, T.F., *et al. J. Signal Transduct.* **2010**, (2010).
3. Fontana, J.A. and Rishi, A.K. *Leukemia* **16(4)**, 463-472 (2002).
4. Liu, S., Brown, C.W., Berlin, K.D., *et al. J. Med. Chem.* **47(4)**, 999-1007 (2004).
5. Erdreich-Epstein, A., Tran, L.B., Bowman, N.N., *et al. J. Biol. Chem.* **277(51)**, 49531-49537 (2002).
6. Bikman, B.T., Guan, Y., Shui, G., *et al. J. Biol. Chem.* **287(21)**, 17426-17437 (2012).

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