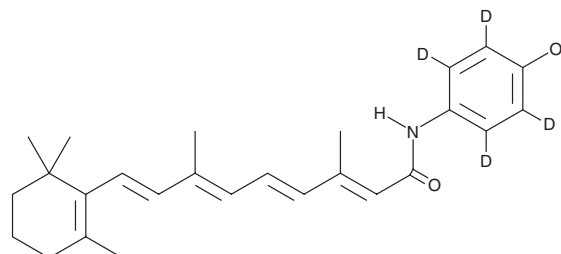


# PRODUCT INFORMATION



## Fenretinide-d<sub>4</sub> Item No. 26489

**CAS Registry No.:** 2118244-64-5  
**Formal Name:** N-(4-hydroxyphenyl-2,3,5,6-d<sub>4</sub>)-retinamide  
**Synonyms:** 4-HPR-d<sub>4</sub>, 4-Hydroxy(phenyl)retinamide-d<sub>4</sub>,  
Retinoic Acid *p*-hydroxyphenylamide-d<sub>4</sub>  
**MF:** C<sub>26</sub>H<sub>29</sub>D<sub>4</sub>NO<sub>2</sub>  
**FW:** 395.6  
**Chemical Purity:** ≥98% (Fenretinide)  
**Deuterium Incorporation:** ≥99% deuterated forms (d<sub>1</sub>-d<sub>4</sub>); ≤1% d<sub>0</sub>  
**Supplied as:** A 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-d<sub>4</sub> is intended for use as an internal standard for the quantification of fenretinide (Item No. 17688) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated versus unlabeled).

Fenretinide-d<sub>4</sub> is supplied as a solid. A stock solution may be made by dissolving the fenretinide-d<sub>4</sub> in the solvent of choice. Fenretinide-d<sub>4</sub> is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of fenretinide-d<sub>4</sub> in these solvents is approximately 10 mg/ml.

### Description

Fenretinide is a synthetic derivative of retinoic acid (Item No. 11017) and an inhibitor of dihydroceramide desaturase (IC<sub>50</sub> = 2.32 μM).<sup>1</sup> It promotes the generation of reactive oxygen species (ROS), the degradation of anti-apoptotic MCL-1, and the cleavage of pro-apoptotic PKCδ.<sup>2</sup> 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<sub>50</sub> values of 3.7, 6.9, and 8.2 μM, respectively.<sup>3,4</sup> It also increases activity of serine palmitoyl transferase (SPT) by 1.75-fold and induces caspase-dependent apoptosis in BMEC cells (IC<sub>50</sub> = 2.4 μM).<sup>5</sup> Fenretinide prevents lipid-induced reductions in insulin-stimulated glucose uptake in isolated rat soleus muscle.<sup>6</sup> *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.<sup>6</sup>

### 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.* **584657**, (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).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

#### WARRANTY AND LIMITATION OF REMEDY

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