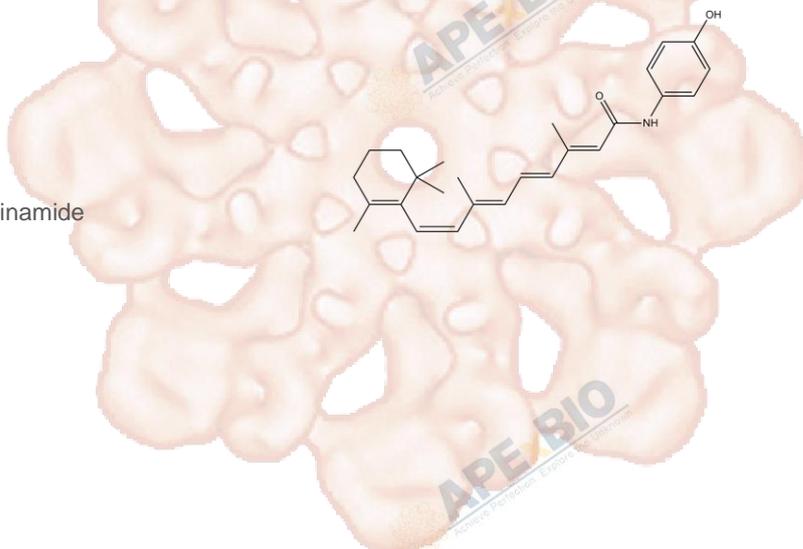


# Product Data Sheet

## Fenretinide

<b>Cat. No.:</b>	A3412
<b>CAS No.:</b>	65646-68-6
<b>Formula:</b>	C <sub>26</sub> H <sub>33</sub> NO <sub>2</sub>
<b>M.Wt:</b>	391.55
<b>Synonyms:</b>	4-HPR; (4-Hydroxyphenyl)retinamide
<b>Target:</b>	Others
<b>Pathway:</b>	RAR/RXR
<b>Storage:</b>	Store at -20°C



## Solvent & Solubility

insoluble in H<sub>2</sub>O; ≥19.6 mg/mL in DMSO; ≥47.8 mg/mL in EtOH with gentle warming

In Vitro

Preparing Stock Solutions	Solvent	Mass		
		1mg	5mg	10mg
	<b>Concentration</b>			
	<b>1 mM</b>	2.5540 mL	12.7698 mL	25.5395 mL
	<b>5 mM</b>	0.5108 mL	2.5540 mL	5.1079 mL
	<b>10 mM</b>	0.2554 mL	1.2770 mL	2.5540 mL

Please refer to the solubility information to select the appropriate solvent.

## Biological Activity

Shortsummary

Synthetic retinoid agonist

IC<sub>50</sub> & Target

### Cell Viability Assay

In Vitro

Cell Line:	T-ALL cell lines, CCRF-CEM leukemia cells, CCRF-CEM and Jurkat cell, OVCAR-5 cell
Preparation method:	The solubility of this compound in DMSO is > 19.6 mg/mL. General tips for obtaining a higher concentration: Please warm the tube at 37 °C for 10 minutes and/or shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

	Reacting conditions:	>1 $\mu$ M, 3 days
	Applications:	Fenretinide inhibited the growth of many tumor cells, including small-cell lung cancer, malignant hemopoietic cells, and breast cancer cells. The IC50 values of Fenretinide were 0.3 and 0.4 $\mu$ M in 222 and UCI 101 ovarian cancer cell lines. Fenretinide showed antitumor activity in selected T-ALL cell lines. Fenretinide inhibited DES activity in CCRF-CEM leukemia cells in a dose and time dependent manner, leading to a concomitant increase of the endogenous cellular dhCer content. Fenretinide (3 $\mu$ M) induced dhCer accumulation in both CCRF-CEM and Jurkat cells. Fenretinide (> 1 $\mu$ M) inhibited OVCAR-5 cell proliferation and viability, with 70-90% growth inhibition at 10 $\mu$ M. Fenretinide (1 $\mu$ M) significantly inhibited OVCAR-5 invasion after 3 days preincubation.
In Vivo	<b>Animal experiment</b>	
	Animal models:	HFD-fed male C57Bl/6 mice, NOD/SCID mice
	Dosage form:	Intraperitoneal injection, 10 mg/kg
	Applications:	Fenretinide (10 mg/kg, i.p.) selectively inhibited ceramide accumulation HFD-fed male C57Bl/6 mice. Fenretinide treatment improved glucose tolerance and insulin sensitivity. Addition of 25 mg/kg ketoconazole to Fenretinide in NOD/SCID mice increased 4-HPR plasma levels.
	Other notes:	Please test the solubility of all compounds indoor, and the actual solubility may slightly differ with the theoretical value. This is caused by an experimental system error and it is normal.

## Product Citations

See more customer validations on [www.apexbt.com](http://www.apexbt.com).

## References

- [1]. Apraiz, Aintzane., et al. Dihydroceramide accumulation and reactive oxygen species are distinct and nonessential events in 4-HPR-mediated leukemia cell death. *Biochemistry and Cell Biology* (2012), 90(2), 209-223.
- [2]. Golubkov V, et al. Action of fenretinide (4-HPR) on ovarian cancer and endothelial cells. *Anticancer Res.* 2005 Jan-Feb;25(1A):249-53.
- [3]. Anita L. Sabichi, Denver T. Hendricks, Mary A. Bober, Michael J. Birrer. Retinoic acid receptor $\beta$  expression and growth inhibition of gynecologic cancer cells by the synthetic retinoid n-(4-hydroxyphenyl) retinamide. *Journal of the National Cancer Institute.* 1998, 90(8): 597-605.
- [4]. Bikman, Benjamin T., et al. Fenretinide Prevents Lipid-induced Insulin Resistance by Blocking Ceramide Biosynthesis. *Journal of Biological Chemistry* (2012), 287(21), 17426-17437.
- [5]. Cooper JP, et al. Fenretinide metabolism in humans and mice: utilizing pharmacological modulation of its metabolic pathway to

## Caution

**FOR RESEARCH PURPOSES ONLY.**

**NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.**

*Specific storage and handling information for each product is indicated on the product datasheet. Most APExBIO products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Shortterm storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.*

**APExBIO Technology**

**[www.apexbt.com](http://www.apexbt.com)**

7505 Fannin street, Suite 410, Houston, TX 77054.

Tel: +1-832-696-8203 | Fax: +1-832-641-3177 | Email: [info@apexbt.com](mailto:info@apexbt.com)

