

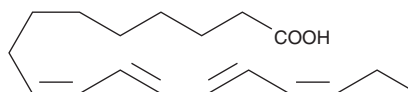
# PRODUCT INFORMATION



## *cis*-Parinaric Acid

Item No. 71430

**CAS Registry No.:** 18427-44-6  
**Formal Name:** 9Z,11E,13E,15Z-octadecatetraenoic acid  
**Synonyms:**  $\alpha$ -Parinaric Acid, FA 18:4  
**MF:** C<sub>18</sub>H<sub>28</sub>O<sub>2</sub>  
**FW:** 276.4  
**Purity:**  $\geq 90\%$   
**UV/Vis.:**  $\lambda_{\text{max}}$ : 292, 305, 319 nm  
**Supplied as:** A solution in ethanol  
**Storage:** -80°C  
**Stability:**  $\geq 2$  years



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

### Laboratory Procedures

*cis*-Parinaric acid is supplied as a solution in ethanol. To change the solvent, simply evaporate the ethanol under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as benzene, ether, and hexane purged with an inert gas can be used. The solubility of *cis*-parinaric acid in benzene and ether is approximately 15 mg/ml and approximately 10 mg/ml in hexane. *cis*-Parinaric acid is highly susceptible to oxidation, and oxidation products are practically insoluble in most solvents.

*cis*-Parinaric acid is sparingly soluble in aqueous buffers. Therefore, further dilutions of the organic solvent solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Store aqueous solutions of *cis*-parinaric acid on ice and use within 12 hours of preparation. Although the aqueous solutions of *cis*-parinaric acid may be stable for more than 12 hours, we strongly recommend using a fresh preparation each day.

### Description

*cis*-Parinaric acid is a naturally occurring polyunsaturated fatty acid containing an unusual conjugated (Z,E,E,Z) tetraene. This chromophore provides for a natural fluorescence at 432 nm with an excitation wavelength at 320 nm. *cis*-Parinaric acid occurs naturally in the seeds of the Makita tree, a tropical rainforest tree indigenous to Fiji. Makita seeds are inedible, and this toxicity may be due at least in part to the unstable conjugated fatty acids, including *cis*-parinaric acid, contained within the seed. *cis*-Parinaric acid has been used for the measurement of phospholipase activity, lipase activity, and as an indicator of lipid peroxidation.<sup>1-3</sup>

### References

1. Wolf, C., Sagaert, L., and Bereziat, G. A sensitive assay of phospholipase using the fluorescent probe 2-parinaroylleclithin. *Biochem. Biophys. Res. Commun.* **99**, 275-283 (1981).
2. Beisson, F., F  rt  , N., Nari, J., et al. Use of naturally fluorescent triacylglycerols from *Parinari glaberrimum* to detect low lipase activities from *Arabidopsis thaliana* seedlings. *J. Lipid Res.* **40**, 2313-2321 (1999).
3. McGuire, S.O., James-Kracke, M.R., Sun, G.Y., et al. An esterification protocol for *cis*-parinaric acid-determined lipid peroxidation in immune cells. *Lipids* **32**, 219-226 (1997).

#### 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

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 02/07/2024

#### CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA

**PHONE:** [800] 364-9897  
[734] 971-3335

**FAX:** [734] 971-3640

CUSTSERV@CAYMANCHEM.COM  
[WWW.CAYMANCHEM.COM](http://WWW.CAYMANCHEM.COM)