

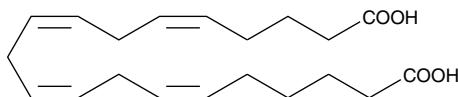
# Product Information



## 20-carboxy Arachidonic Acid

Item No. 10007912

**CAS Registry No.:** 79551-84-1  
**Formal Name:** 5Z,8Z,11Z,14Z-eicosatetraenedioic acid  
**Synonyms:** 20-carboxy AA, 20-COOH-AA  
**MF:**  $C_{20}H_{30}O_4$   
**FW:** 334.5  
**Purity:** ≥98%  
**Stability:** ≥1 year at -20°C  
**Supplied as:** A solution in ethanol



### Laboratory Procedures

For long term storage, we suggest that 20-carboxy arachidonic acid (20-COOH-AA) be stored as supplied at -20°C. It will be stable for at least one year.

20-COOH-AA 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 DMSO and dimethyl formamide purged with an inert gas can be used. The solubility of 20-COOH-AA in these solvents is approximately 100 mg/ml.

Further dilutions of the stock 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. For greater aqueous solubility, 20-COOH-AA can be directly dissolved in 0.1 M  $Na_2CO_3$  (solubility of approximately 1.5 mg/ml) and then diluted with PBS (pH 7.2) to achieve the desired concentration or pH. We do not recommend storing the aqueous solution for more than one day.

20-COOH-AA is the major metabolite of 20-HETE that is produced in renal tubular epithelial, endothelial, and microvascular smooth muscle cell cultures. This  $\omega$ -oxidation conversion can take place using purified alcohol dehydrogenases three and four or by microsomes containing recombinant human CYP4F3B.<sup>1</sup> Like 20-HETE, 20-COOH-AA inhibits ion transport in the kidneys. It also produces vasorelaxation of porcine coronary microvessels constricted with endothelin. 20-COOH-AA binds to isolated ligand binding domains of peroxisome proliferator-activated receptor  $\alpha$  (PPAR $\alpha$ ) ( $K_d = 0.87 \pm 0.12 \mu M$ ) and PPAR $\gamma$  ( $K_d = 1.7 \pm 0.5 \mu M$ ), and is a dual activator of PPAR $\alpha$  and PPAR $\gamma$  in a transiently transfected COS-7 cell reporter system.<sup>1</sup>

### Reference

1. Fang, X., Dillon, J.S., Hu, S., *et al.* 20-carboxy-arachidonic acid is a dual activator of peroxisome proliferator-activated receptors  $\alpha$  and  $\gamma$ . *Prostaglandin & Other Lipid Mediators* **82**, 175-184 (2007).

### Related Products

For a list of related products please visit: [www.caymanchem.com/catalog/10007912](http://www.caymanchem.com/catalog/10007912)

**WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY; NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.**

#### SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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