

# PRODUCT INFORMATION



## Linoleic Acid-<sup>13</sup>C<sub>18</sub>

Item No. 31159

CAS Registry No.: 287111-25-5

Formal Name: (9Z,12Z)-9,12-octadecadienoic-  
1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18-  
<sup>13</sup>C<sub>18</sub> acid

Synonyms: C18:2(9Z,12Z)-<sup>13</sup>C<sub>18</sub>, C18:2 n-6-<sup>13</sup>C<sub>18</sub>,  
FA 18:2-<sup>13</sup>C,  
9,12-Octadecadienoic Acid-<sup>13</sup>C<sub>18</sub>,  
Telfairic Acid-<sup>13</sup>C<sub>18</sub>

MF: [<sup>13</sup>C]<sub>18</sub>H<sub>32</sub>O<sub>2</sub>

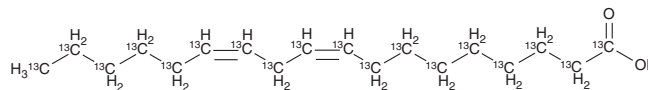
FW: 298.3

Purity: ≥95%

Supplied as: A solution in ethanol

Storage: -20°C

Stability: ≥2 years



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

### Laboratory Procedures

Linoleic acid-<sup>13</sup>C<sub>18</sub> 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 linoleic acid-<sup>13</sup>C<sub>18</sub> 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. If an organic solvent-free solution of linoleic acid-<sup>13</sup>C<sub>18</sub> is needed, it can be prepared by evaporating the ethanol and directly dissolving the neat oil in aqueous buffers. The solubility of linoleic acid-<sup>13</sup>C<sub>18</sub> in PBS, pH 7.2, and 0.15 M Tris-HCl, pH 8.5, is approximately 0.1 and 1 mg/ml, respectively. We do not recommend storing the aqueous solution for more than one day.

### Description

Linoleic acid-<sup>13</sup>C<sub>18</sub> is intended for use as an internal standard for the quantification of linoleic acid (Item Nos. 90150 | 90150.1 | 21909) by GC- or LC-MS. Linoleic acid is an essential ω-6 polyunsaturated fatty acid (PUFA).<sup>1</sup> It is the most abundant PUFA in a variety of foods, and dietary sources of linoleic acid include vegetable oils, meats, nuts, seeds, and eggs. Linoleic acid (30 μM) increases migration of IEC-6 rat intestinal epithelial cells in a wound healing assay.<sup>2</sup> Rats fed a linoleate-deficient diet exhibit decreased body weight and an increased ratio of eicosatrienoate to arachidonate in liver and serum phospholipids compared with rats fed a control diet, as well as mild scaling of forepaw skin.<sup>3</sup>

### References

1. Whelan, J. and Fritsche, K. Linoleic acid. *Adv. Nutr.* **4**(3), 311-312 (2013).
2. Ruthig, D.J. and Meckling-Gill, K.A. Both (n-3) and (n-6) fatty acids stimulate wound healing in the rat intestinal epithelial cell line, IEC-6. *J. Nutr.* **129**(10), 1791-1798 (1999).
3. Cunnane, S.C. and Anderson, M.J. Pure linoleate deficiency in the rat: Influence on growth, accumulation of n-6 polyunsaturates, and [1-<sup>14</sup>C]linoleate oxidation. *J. Lipid Res.* **38**(4), 805-812 (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, 02/20/2024

#### 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