

## Product Data Sheet

Product Name: Oleic Acid-<sup>13</sup>C<sub>5</sub>

Cat. No.: GC52318

### Chemical Properties

Cas. No. 1255644-48-4

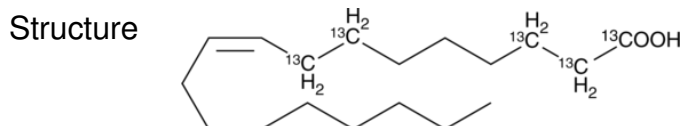
SMILES CCCCCCCC/C=C\[13CH2][13CH2]CCC[13CH2][13CH2][13C](O)=O

Formula C<sub>13</sub>[<sup>13</sup>C]<sub>5</sub>H<sub>34</sub>O<sub>2</sub> M.Wt 287.4

Solubility Chloroform: soluble, DMF: Storage -20°C  
>100mg/mL, DMSO:  
>100mg/mL, Ethanol:  
>100mg/mL, PBS (pH 7.2):  
<100ug/mL

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution: ship with blue ice. All other available size: ship with RT, or blue ice upon request.



### Background

Oleic acid-<sup>13</sup>C<sub>5</sub> is intended for use as an internal standard for the quantification of oleic acid by GC- or LC-MS. Oleic acid is a monounsaturated fatty acid and a major component of membrane phospholipids that has been found in human plasma, cell membranes, and adipose tissue.<sup>1,2</sup> It contributes approximately 17% of the total fatty acids esterified to phosphatidylcholine, the major phospholipid class in porcine platelets.<sup>1</sup> Oleic acid inhibits collagen-stimulated platelet aggregation by approximately 90% when used at a concentration of 10 µg/ml. It also inhibits fMLF-induced neutrophil aggregation and degranulation by 55 and 68%, respectively, when used at a concentration

**Caution: Product has not been fully validated for medical applications. For research use only.**

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of 5  $\mu$ M, similar to arachidonic acid.<sup>3</sup> Oleic acid (60  $\mu$ M) induces release of intracellular calcium in human platelets.<sup>4</sup> *In vivo*, oleic acid increases TNF- $\alpha$ , IL-8, IL-6, and IL-1 $\beta$  production, neutrophil accumulation, and apoptotic and necrotic cell death in mouse lung and has been used to induce lung injury in a mouse model of acute respiratory distress syndrome (ARDS).<sup>2</sup>

1. Wahle, K.W., and Peacock, L.I. Effects of isomeric cis and trans eighteen carbon monounsaturated fatty acids on porcine platelet function *Biochim. Biophys. Acta* 1301(1-2)141-149(1996) 2. Gonçalves-de-Albuquerque, C.F., Silva, A.R., Burth, P., et al. Acute respiratory distress syndrome: Role of oleic acid-triggered lung injury and inflammation *Mediators Inflamm.* 260465(2015) 3. Naccache, P.H., Moiski, T.F., Volpi, M., et al. Modulation of rabbit neutrophil aggregation and degranulation by free fatty acids *J. Leukoc. Biol.* 36(3)333-340(1984) 4. Siafaka-Kapadai, A., Hanahan, D.J., and Javors, M.A. Oleic acid-induced Ca<sup>2+</sup> mobilization in human platelets: Is oleic acid an intracellular messenger? *J. Lipid Mediat. Cell Signal* 15(3)215-232(1997)

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