

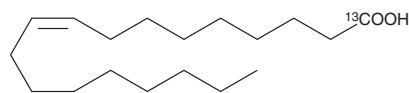
PRODUCT INFORMATION



Oleic Acid-¹³C

Item No. 27869

CAS Registry No.: 82005-44-5
Formal Name: 9Z-octadecenoic-1-¹³C acid
Synonyms: 9Z-Octadecenoic Acid-¹³C,
9Z-Oleic Acid-¹³C, C18:1-¹³C,
cis-9-Octadecenoic Acid-¹³C, FA 18:1-¹³C
MF: C₁₇[¹³C]H₃₄O₂
FW: 283.5
Purity: ≥98%
Supplied as: A 10 mg/ml solution in ethanol
Storage: -20°C
Stability: ≥4 years



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

Laboratory Procedures

Oleic acid-¹³C is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, the ethanolic solution of oleic acid-¹³C should be diluted with the aqueous buffer of choice. Oleic acid-¹³C has a solubility of approximately 0.5 mg/ml in a 1:1 solution of ethanol:PBS (pH 7.2) using this method.

Description

Oleic acid-¹³C is intended for use as an internal standard for the quantification of oleic acid (Item Nos. 90260 | 24659) 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.^{1,2} It contributes approximately 17% of the total fatty acids esterified to phosphatidylcholine, the major phospholipid class in porcine platelets.¹ 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 of 5 µM, similar to arachidonic acid (Item Nos. 90010 | 90010.1 | 10006607).³ Oleic acid (60 µM) induces release of intracellular calcium in human platelets.⁴ *In vivo*, oleic acid increases TNF-α, IL-8, IL-6, and IL-1β 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).²

References

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 Ca²⁺ mobilization in human platelets: Is oleic acid an intracellular messenger? *J. Lipid Mediat. Cell Signal* **15**(3), 215-232 (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.

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