

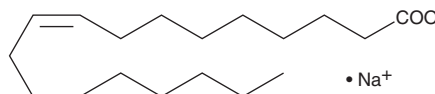
PRODUCT INFORMATION



Oleic Acid (sodium salt)

Item No. 24659

CAS Registry No.: 143-19-1
Formal Name: 9Z-octadecenoic acid, monosodium salt
Synonyms: C18:1(9Z), FA 18:1, 9Z-Octadecenoic Acid, *cis*-9-Octadecenoic Acid, Sodium oleate
MF: C₁₈H₃₃O₂ • Na
FW: 304.4
Purity: ≥80%
UV/Vis.: λ_{max}: 202 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥1 year



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

Laboratory Procedures

Oleic acid (sodium salt) is supplied as a crystalline solid. A stock solution may be made by dissolving the oleic acid (sodium salt) in the solvent of choice. Oleic acid (sodium salt) is soluble in the organic solvent ethanol, which should be purged with an inert gas, at a concentration of approximately 1.5 mg/ml.

Oleic acid (sodium salt) is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, oleic acid (sodium salt) should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. Oleic acid (sodium salt) has a solubility of approximately 0.5 mg/ml in a 1:1 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

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 No. 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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