

PRODUCT DATA SHEET

Octadecenoic acid (*cis*-11)

Catalog No: 1266

Common Name: *cis*-vaccenic acid;
C18:1 (*cis*-11) Fatty acid

Source: natural, plant

Solubility: chloroform, hexane, ethyl ether

CAS No: 506-17-2

Molecular Formula: C₁₈H₃₄O₂

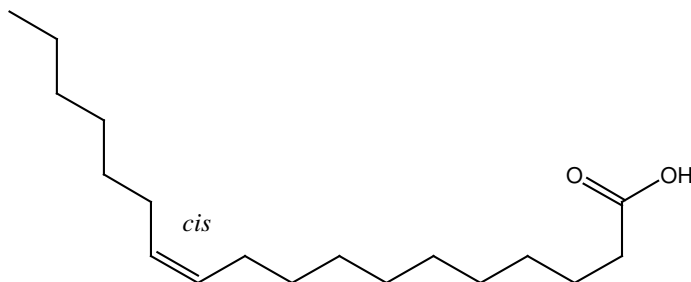
Molecular Weight: 282

Storage: -20°C

Purity: TLC > 99%, GC > 99%

TLC System: hexane/ethyl ether/acetic acid
(80:20:1 by Vol.)

Appearance: liquid



Application Notes:

cis-11-Octadecenoic acid (*cis*-vaccenic acid) is an eighteen-carbon monounsaturated fatty acid that is a major fatty acid in bacteria, including intestinal bacteria, and usually a minor component in plant and animal tissues.¹ However, some plants have a much higher concentration of *cis*-vaccenic acid than others.² It is a positional isomer of oleic acid which is much more abundant in plants and animals. It is commonly used as a bacterial biomarker. Although lower growth temperatures generally cause microorganisms to produce more unsaturated fatty acids, a mutant *Escherichia coli* was found to overproduce *cis*-vaccenic acid even at elevated temperatures.³

Selected References:

1. P. W. Holloway and Salih J. Wakil "Synthesis of Fatty Acids in Animal Tissues: II. THE OCCURRENCE AND BIOSYNTHESIS OF *CIS*-VACCENIC ACID" *Journal of Biological Chemistry*, Vol. 239 pp. 2489-2495, 1964
2. Akira Shibahara et al. "*cis*-Vaccenic acid in mango pulp lipids" *Lipids*, Vol. 21:6 pp. 388-394, 1986
3. D. Mendoza, J. Garwin, J. Cronan, "Overproduction of *cis*-Vaccenic Acid and Altered Temperature Control of Fatty Acid Synthesis in a Mutant of *Escherichia coli*" *Journal of Bacteriology*, Vol. 151:3 pp. 1608-1611, 1986

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