PRODUCT DATA SHEET

**Tetradecenoic acid (cis-9)**

**Catalog number:** 1157  
**Synonyms:** Myristoleic acid; C14:1 (cis-9)  
**Source:** natural, plant  
**Solubility:** chloroform, hexane, ethyl ether  
**CAS number:** 554-64-9  
**Molecular Formula:** C_{14}H_{26}O_{2}  
**Molecular Weight:** 226  
**Storage:** -20˚C  
**Purity:** TLC: 99%, GC >99%  
**TLC System:** hexane/ethyl ether (80:20)  
**Appearance:** liquid

**Application Notes:**
This high purity myristoleic acid is ideal as a standard and for biological studies. Myristoleic acid is a natural but uncommon fatty acid produced from myristic acid by the *delta*-9-desaturase enzyme. When esterified with cetyl alcohol myristoleic acid becomes cetyl myristoleate, a compound with multiple biological properties including anti-inflammitory, pain relief and immune system modulation. Extracts from *Serenoa repens* have been used to cause cell death in prostate cancer cells and myristoleic acid has been identified as at least one of the cytotoxic components of the extract.\(^1\) Myristoleic acid has been shown to suppress growth of hamster flank organs by inhibiting the 5alpha-reductase enzyme and thereby preventing the conversion of testosterone to 5alpha-dihydrotestosterone.\(^2\) Among the bioactive products in bovine whey that help to promote health and prevent disease is myristoleic acid which inhibits the germination of the pathogenic *Candida albicans*.\(^3\) Myristoleic acid has shown some anticarcinogenic effects by inhibiting the nuclear density of chemically induced transformation cells.\(^4\) A seaweed *Ascophyllum nodosum* extract has been shown to cause an increase of myristoleic acid accumulation in adipose tissues.

**Selected References:**
1. K. Hirano et al. “Myristoleic acid, a cytotoxic component in the extract from Serenoa repens, induces apoptosis and necrosis in human prostatic LNcap cells” *Prostate*, vol. 47 pp. 59-64, 2001  
4. S. Sharma, P. Gao, and V. Steele “Quantitative Morphometry of Respiratory Tract Epithelial Cells as a Tool for Testing Chemopreventive Agent Efficacy” *Anticancer Research*, vol. 3 pp. 737-742, 2010

This product is to be used for research only. It is not intended for drug or diagnostic use, human consumption or to be used in food or food additives. Matreya assumes no liability for any use of this product by the end user. We believe the information, offered in good faith, is accurate.

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