Octadecenoic acid (trans-11)

Catalog number: 1262
Common names: C18:1 (trans-11) fatty acid; trans-Vaccenic acid
Source: synthetic
Solubility: chloroform, hexane, ethyl ether
CAS number: 693-72-1

Molecular Formula: C_{18}H_{34}O_{2}
Molecular Weight: 282
Storage: -20°C
Purity: TLC: 99%, GC >99%
TLC System: hexane/ethyl ether/acetic acid (85:15:1 by vol.)
Appearance: solid

Application Notes:
trans-Vaccenic acid is produced naturally in animals by the partial biohydrogenation of linoleic acid and alpha-linolenic acid. trans-Vaccenic acid does not appear to have the harmful health effects in animals that commercial trans-fats have. On the contrary, it has been found that trans-vaccenic acid is converted to the beneficial cis-9, trans-11 octadecadienoic acid (CLA) in animals via the delta 9 desaturase enzyme, probably in adipose tissues, and this mechanism is undergoing much research in an attempt to increase the amount of CLA in animals and milk. trans-Vaccenic acid is the predominant trans monoene in ruminant fats and is formed by incomplete biohydrogenation of dietary fatty acids in the rumen. It has demonstrated insulinotropic effects when incubated with D-glucose in an animal model and a study has demonstrated that trans-vaccenic acid can have substantial hypo-triglyceridemic effects.

Selected References:
2. A. Sener and W. Malaisse "Insulinotropic effects of cis and trans vaccenic acid in rat pancreatic islets stimulated by D-glucose or non-nutrient secretagogues" Metabolic and Functional Research on Diabetes, vol. 3 pp. 30-31, 2010

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