PRODUCT DATA SHEET

Hexacosanoic acid

Catalog number: 1251  
Common Name: C26:0 Fatty acid; cerotic acid  
Source: synthetic  
Solubility: chloroform, ethyl ether  
CAS number: 506-46-7  
Molecular Formula: C_{26}H_{52}O_{2}  
Molecular Weight: 397  
Storage: room temperature  
Purity: TLC: 99%, GC >99%  
TLC System: hexane/ethyl ether/acetic acid (85:15:1 by vol.)  
Appearance: solid

Application Notes:
This high purity very long chain fatty acid (VLCFA) is ideal as a standard and for biological studies. X-linked adrenoleukodystrophy (X-ALD) is an inherited disorder of peroxisomal metabolism and is characterized by deficient β-oxidation of saturated very long chain fatty acids such as hexacosanoic acid. Indeed, some studies show hexacosanoic acid as the most prevalent VLCFA in X-ALD, causing oxidative damage of proteins early on in the disease.\(^1\) Hexacosanoic acid has also been found to be closely linked to a high risk of atherosclerosis and metabolic syndrome.\(^2\) In plants, VLCFA are converted to long chain hydrocarbons which are used to make waxes that are essential to their survival.\(^3\) VLCFA acylated to sphingolipids are critical in many biological functions\(^4\) and substantial amounts are found to be amide-linked to the long chain sphingoid base sphinganine, forming a ceramide, which constitutes the lipid backbone of sphingomyelin and other sphingolipids. VLCFA can often be found in esterified linkages with cholesterol, gangliosides, galactocerebrosides, sphingomyelin, and phosphatidylcholine. In myelin, VLCFA are important in increasing the structural stability.

Selected References:
2. A. Kume et al. “High levels of saturated very long-chain fatty acid (hexacosanoic acid; C26:0) in whole blood are associated with metabolic syndrome in Japanese men” Diabetes Research and Clinical Practice, vol. 80 pp. 259-264, 2008

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