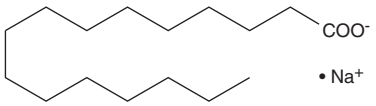
PRODUCT INFORMATION

Palmitic Acid (sodium salt)

Item No. 43561

CAS Registry No.: 408-35-5
Formal Name: hexadecanoic acid, monosodium salt
Synonyms: C16:0, Cetylic Acid, FA 16:0, Hexadecanoic Acid, NSC 5030
MF: $C_{16}H_{31}O_2 \bullet Na$
FW: 278.4
Purity: ≥95%
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years



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

Laboratory Procedures

Palmitic acid (sodium salt) is supplied as a solid. A stock solution may be made by dissolving the palmitic acid (sodium salt) in the solvent of choice, which should be purged with an inert gas. Palmitic acid (sodium salt) is slightly soluble (0.1-1 mg/ml) in methanol.

Description

Palmitic acid is a common 16-carbon saturated fat that represents 10-20% of human dietary fat intake and comprises approximately 25 and 65% of human total plasma lipids and saturated fatty acids, respectively.[1,2] Acylation of palmitic acid to proteins facilitates anchoring of membrane-bound proteins to the lipid bilayer and trafficking of intracellular proteins, promotes protein-vesicle interactions, and regulates various G protein-coupled receptor functions.[1] Palmitic acid (200 µM) increases NF-κB p65 levels, matrix metalloproteinase-9 (MMP-9) activity, and production of reactive oxygen species (ROS) in AsPC-1 pancreatic cancer cells, as well as increases migration of AsPC-1 cells.[3] It increases COX-2 levels in RAW 264.7 cells and increases LPS-induced IL-1β levels and caspase-1 activity in isolated mouse peritoneal macrophages.[4,5] Dietary administration of palmitic acid (2.2% w/w for 12 weeks) increases mouse hippocampal β-secretase 1 (BACE1) activity and amyloid β (1-42) (Aβ42; Item No. 20574) levels.[6] It also induces systolic contractile dysfunction in isolated mouse hearts.[7] Red blood cell palmitic acid levels are increased in patients with metabolic syndrome compared to patients without metabolic syndrome and are also increased in the plasma of patients with type 2 diabetes compared to individuals without diabetes.[8,9]

References

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