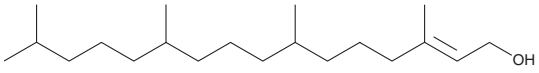
PRODUCT INFORMATION

Phytol

Item No. 17401

CAS Registry No.: 150-86-7
Formal Name: 3,7,11,15-tetramethyl-2-hexadecen-1-ol
MF: $C_{20}H_{40}O$
FW: 296.5
Purity: ≥85% (mixture of isomers)
Supplied as: A neat oil
Storage: -20°C
Stability: ≥4 years



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

Laboratory Procedures

Phytol is supplied as a neat oil. A stock solution may be made by dissolving the phytol in the solvent of choice, which should be purged with an inert gas. Phytol is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of phytol in ethanol and DMF is approximately 10 mg/ml and approximately 5 mg/ml in DMSO.

Description

Phytol is a diterpene alcohol obtained from the degradation of chlorophyll and has been used in the synthesis of Vitamins E and K. During the digestion process of ruminants, phytol is liberated from chlorophyll and converted to phytanic acid (Item No. 90360) to be stored in fats. While humans cannot derive phytol from chlorophyll, free phytol, obtained from the consumption of ruminant adipose tissue and dairy products, is readily absorbed in the small intestine and converted to phytanic acid.[1] Phytanic acid accumulates to toxic levels in a number of metabolic disorders, and the conversion of phytol to phytanic acid has been shown to be regulated *via* the activation of peroxisome proliferator-activated receptor α (PPARα).[1,2] Phytol and its metabolites have also been reported to activate retinoid X receptors (RXRs; K_is range from 2.3-67.2 µM) and to promote the activity of PPAR/RXR heterodimers.[2,3] Phytol also demonstrates sedative and anxiolytic effects through interaction with the $GABA_A$ receptor, and it has been explored as an antischistosomal agent in a mouse model of schistosomiasis.[4,5]

References

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3. Kitareewan, S., Burka, L.T., Tomer, K.B., *et al. Mol. Biol. Cell* **7(8)**, 1153-1166 (1996).
4. Costa, J.P., de Oliveira, G.A., de Almeida, A.A., *et al. Brain Res.* **1547**, 34-42 (2014).
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