

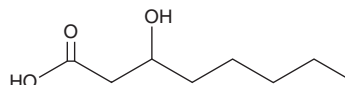
PRODUCT INFORMATION



3-hydroxy Octanoic Acid

Item No. 24609

CAS Registry No.: 14292-27-4
Formal Name: 3-hydroxy-octanoic acid
Synonyms: 3-hydroxy Caprylic Acid, FA 8:0;O,
 β -hydroxy Octanoic Acid
MF: $C_8H_{16}O_3$
FW: 160.2
Purity: $\geq 98\%$
Supplied as: A crystalline 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

3-hydroxy Octanoic acid is supplied as a liquid. A stock solution may be made by dissolving the 3-hydroxy octanoic acid in the solvent of choice. 3-hydroxy Octanoic acid is soluble in chloroform, methanol, and ethanol.

Description

3-hydroxy Octanoic acid is a hydroxylated fatty acid that has been found in LPS from *P. aeruginosa* and the methyl-branched poly(3-hydroxyalkanoate) (PHA) polymers produced by *P. oleovorans*.^{1,2} It is an agonist of the orphan receptor GPR109B, increasing intracellular calcium in human neutrophils which endogenously express GPR109B.³ 3-hydroxy Octanoic acid prevents lipolysis of human adipocytes and is upregulated in human plasma in response to a ketogenic diet. Plasma levels of 3-hydroxy octanoic acid also increase 3.41-fold in human male runners following a treadmill run to exhaustion as well as in a mouse model of autism spectrum disorder (ASD) fed a high-glycemic diet.^{4,5}

References

1. Uhlig, S., Negård, M., Heldal, K.K., *et al.* Profiling of 3-hydroxy fatty acids as environmental markers of endotoxin using liquid chromatography coupled to tandem mass spectrometry. *J. Chromatogr. A*. **1434**, 119-236 (2016).
2. Hazer, B., Lenz, R.W., and Fuller, R.C. Biosynthesis of methyl-branched poly(β -hydroxyalkanoate)s by *Pseudomonas oleovorans*. *Macromol.* **27(1)**, 45-49 (1994).
3. Ahmed, K., Tunaru, S., Langhans, C.-D., *et al.* Deorphanization of GPR109B as a receptor for the β -oxidation intermediate 3-OH-octanoic acid and its role in the regulation of lipolysis. *J. Biol. Chem.* **284(33)**, 21928-21933 (2009).
4. Nieman, D.C., Sha, W., and Pappan, K.L. IL-6 linkage to exercise-induced shifts in lipid-related metabolites: A metabolomics-based analysis. *J. Proteome Res.* **16(2)**, 970-977 (2017).
5. Currais, A., Farrokhi, C., Dargusch, R., *et al.* Dietary glycemic index modulates the behavioral and biochemical abnormalities associated with autism spectrum disorder. *Mol. Psychiatry* **21(3)**, 426-36 (2016).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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