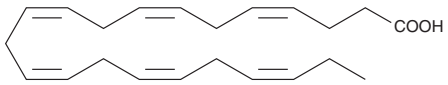
PRODUCT INFORMATION

Docosahexaenoic Acid MaxSpec® Standard

Item No. 26414

CAS Registry No.: 6217-54-5
Formal Name: 4Z,7Z,10Z,13Z,16Z,19Z-docosahexaenoic acid
Synonyms: Cervonic Acid, DHA, 4,7,10,13,16,19-Docosahexaenoic Acid, FA 22:6, C22:6 *n*-3, C22:6(4Z,7Z,10Z,13Z,16Z,19Z)
MF: $C_{22}H_{32}O_2$
FW: 328.5
Purity: ≥95%
Supplied as: A solution in ethanol; in a deactivated glass ampule
Concentration: 1 mg/ml (nominal); see certificate of analysis for verified concentration
Storage: -20°C
Stability: ≥3 years; *Stability testing is ongoing to ensure concentration accuracy. The certificate of analysis and product expiry date will be updated upon completion of testing.*
Special Conditions: Store upright and unopened at -20°C. Warm to room temperature prior to opening. Light sensitive.



Description

Docosahexaenoic acid (DHA) is a long-chain ω-3 polyunsaturated fatty acid (PUFA) found in fish and algal oils.[1] It comprises approximately 40% of total brain PUFAs and is abundant in grey matter and retinal membranes.[2] DHA typically represents 0.52-7.5% of human total plasma fatty acids. It is produced from α-linolenic acid (ALA; Item Nos. 90210 | 21910) *via* a series of desaturase- and elongase-catalyzed reactions, resulting in a docosapentaenoic acid (DPA; Item No. 90165) intermediate, which is elongated, desaturated, and β-oxidized to produce DHA.[3] DHA can be liberated from cellular membranes by phospholipase A_2 (PLA_2) and converted to numerous oxylipins, including specialized pro-resolving mediators (SPMs), which are produced by lipoxygenases and include D-series protectins and resolvins, as well as maresins, that regulate host defense and the resolution of inflammation.[4] DHA has roles in several physiological and pathological processes, including neural development, cardiovascular diseases, obesity, and inflammation.[3,5]

DHA MaxSpec® standard is a quantitative grade standard of DHA (Item No. 90310) that has been prepared specifically for mass spectrometry or any application where quantitative reproducibility is required. The solution has been prepared gravimetrically and is supplied in a deactivated glass ampule sealed under argon. The concentration was verified by comparison to an independently prepared calibration standard. The verified concentration is provided on the certificate of analysis. This DHA MaxSpec® standard is guaranteed to meet identity, purity, stability, and concentration specifications and is provided with a batch-specific certificate of analysis. Ongoing stability testing is performed to ensure the concentration remains accurate throughout the shelf life of the product. ***Note:*** *The amount of solution added to the vial is in excess of the listed amount. Therefore, it is necessary to accurately measure volumes for preparation of calibration standards. Follow recommended storage and handling conditions to maintain product quality.*

References

1. Kuratko, C.N. and Salem, N., Jr. *Prostaglandins Leukot. Essent. Fatty Acids* **81(2-3)**, 111-118 (2009).
2. Lacombe, R.J.S., Chouinard-Watkins, R., and Bazinet, R.P. *Mol. Aspects Med.* **64**, 109-134 (2018).
3. Calder, P.C. *Ann. Nutr. Metab.* **69(Suppl 1)**, 7-21 (2016).
4. Basil, B.C. and Levy, B.D. *Nat. Rev. Immunol.* **16(1)**, 51-67 (2016).
5. Arnoldussen, I.A.C. and Kiliaan, A.J. *Mar. Drugs* **12(12)**, 6190-6212 (2014).

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