

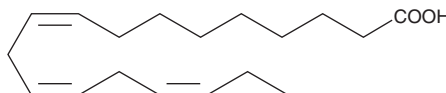
# PRODUCT INFORMATION



## $\alpha$ -Linolenic Acid

Item No. 90210

**CAS Registry No.:** 463-40-1  
**Formal Name:** 9Z,12Z,15Z-octadecatrienoic acid  
**Synonyms:** ALA, C18:3 n-3, C18:3 (9Z,12Z,15Z)  
**MF:** C<sub>18</sub>H<sub>30</sub>O<sub>2</sub>  
**FW:** 278.4  
**Purity:**  $\geq$ 98%  
**Supplied as:** A solution in ethanol  
**Storage:** -20°C  
**Stability:**  $\geq$ 2 years



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

### Laboratory Procedures

$\alpha$ -Linolenic acid (ALA) is supplied as a solution in ethanol. To change the solvent, simply evaporate the ethanol under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as DMSO or dimethyl formamide purged with an inert gas can be used. The solubility of ALA in these solvents is approximately 100 mg/ml.

ALA is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, the ethanolic solution of ALA should be diluted with the aqueous buffer of choice. ALA has a solubility of approximately 1 mg/ml in a 0.15 M solution of Tris-HCl (pH 8.5) using this method. Therefore, further dilutions of the organic solvent solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

### Description

ALA is an essential  $\omega$ -3 polyunsaturated fatty acid found in plants.<sup>1</sup> It is converted to the longer-chain fatty acids eicosapentaenoic (Item Nos. 90110 | 90110.1 | 21908), docosapentaenoic (Item Nos. 90165 | 21907), and docosahexaenoic acid (Item No. 90310).<sup>2</sup> It is also catabolized *via* fatty acid  $\beta$ -oxidation for energy or the synthesis of saturated and monounsaturated fatty acids, or stored in adipose tissue. Dietary consumption of  $\alpha$ -linolenic acid-containing foods is positively associated with a moderately lower risk of cardiovascular disease.<sup>1</sup>

### References

1. Pan, A., Chen, M., Chowdhury, R., *et al.*  $\alpha$ -Linolenic acid and risk of cardiovascular disease: A systematic review and meta-analysis. *Am. J. Clin. Nutr.* **96(6)**, 1262-1273 (2012).
2. Burdge, G.C. Metabolism of  $\alpha$ -linolenic acid in humans. *Prostaglandins Leukot. Essent. Fatty Acids* **75(3)**, 161-168 (2006).

#### 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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