

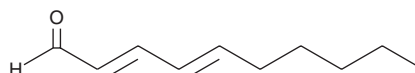
PRODUCT INFORMATION



DDA

Item No. 10005432

CAS Registry No.: 25152-84-5
Formal Name: 2E,4E-decadienal
Synonyms: Decadienealdehyde; *trans*-2,4-Decadien-1-al
MF: $C_{10}H_{16}O$
FW: 152.2
Purity: $\geq 98\%$
Supplied as: A liquid
Storage: $-20^{\circ}C$
Stability: ≥ 4 years



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

Laboratory Procedures

DDA is supplied as a liquid. A stock solution may be made by dissolving the DDA in an organic solvent purged with an inert gas. DDA is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of DDA in these solvents is approximately 10 mg/ml.

DDA is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, DDA should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. DDA has a solubility of approximately 0.15 mg/ml in a 1:2 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Lipoxygenase-catalyzed peroxidative decomposition of unsaturated fatty acids occurs within seconds when diatoms are crushed or eaten, producing alkyls.¹ DDA is a prominent member of this class of reactive compounds. Common ω -6 fatty acids such as linoleic acid, dihomo- γ -linolenic acid, and arachidonic acid can give rise to DDA. DDA reduces the hatching rate and has a strong teratogenic effect on the eggs of pelagic copepods, at concentrations around 1 μ M.² In human carcinoma Caco2 cells, DDA induces cell growth arrest at around 15 μ M. DDA appears to be a natural defensive chemical designed to limit the reproductive success of copepods, the main predators of diatoms. It may also be a more general inducer of apoptosis.

References

1. Miralto, A., Barone, G., Romano, G., *et al.* The insidious effect of diatoms on copepod reproduction. *Nature* **402**, 173-176 (1999).
2. Ianora, A., Miralto, A., Poulet, S.A., *et al.* Aldehyde suppression of copepod recruitment in blooms of a ubiquitous planktonic diatom. *Nature* **429**, 403-407 (2004).

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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