

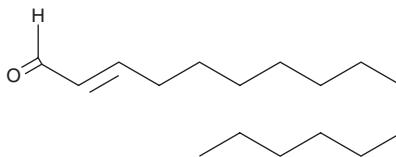
PRODUCT INFORMATION



(E)-2-Hexadecenal

Item No. 17566

CAS Registry No.: 22644-96-8
Formal Name: (2E)-2-hexadecenal
Synonym: *trans*-2-Hexadecenal
MF: C₁₆H₃₀O
FW: 238.4
Purity: ≥95%
UV/Vis.: λ_{max}: 220 nm
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

(E)-2-Hexadecenal is supplied as a crystalline solid. A stock solution may be made by dissolving the (E)-2-hexadecenal in the solvent of choice, which should be purged with an inert gas. (E)-2-Hexadecenal is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of (E)-2-hexadecenal in ethanol and DMF is approximately 30 mg/ml and approximately 10 mg/ml in DMSO.

(E)-2-Hexadecenal is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, (E)-2-hexadecenal should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. (E)-2-Hexadecenal has a solubility of approximately 0.3 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

Sphingosine-1-phosphate (S1P), a bioactive lipid involved in many signaling processes, is irreversibly degraded by the membrane-bound S1P lyase. (E)-2-Hexadecenal is a sphingolipid degradation product resulting from the action of S1P lyase. It can be further oxidized to (2E)-hexadecenoic acid by long-chain fatty aldehyde dehydrogenase prior to activation *via* coupling to coenzyme A. (E)-2-Hexadecenal has been shown to induce cytoskeletal reorganization that results in cell rounding, detachment, activation of downstream JNK targets, and eventual apoptosis in various cell types.¹ It reacts readily with deoxyguanosine and DNA to form aldehyde-derived DNA adducts.²

References

1. Kumar, A., Byun, H.S., Bittman, R., *et al.* The sphingolipid degradation product *trans*-2-hexadecenal induces cytoskeletal reorganization and apoptosis in a JNK-dependent manner. *Cell. Signal.* **23**(7), 1144-1152 (2011).
2. Upadhyaya, P., Kumar, A., Byun, H.S., *et al.* The sphingolipid degradation product *trans*-2-hexadecenal forms adducts with DNA. *Biochem. Biophys. Res. Commun.* **424**(1), 18-21 (2012).

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.

WARRANTY AND LIMITATION OF REMEDY

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