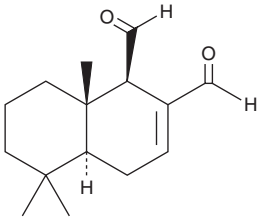
PRODUCT INFORMATION

Polygodial

Item No. 14979

CAS Registry No.:	6754-20-7
Formal Name:	(1R,4aS,8aS)-1,4,4a,5,6,7,8,8a-octahydro-5,5,8a-trimethyl-1,2-naphthalenedicarboxaldehyde
Synonym:	Tadeonal
MF:	$C_{15}H_{22}O_2$
FW:	234.3
Purity:	≥98%
UV/Vis.:	λ_{max}: 230 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

Polygodial is supplied as a crystalline solid. A stock solution may be made by dissolving the polygodial in the solvent of choice, which should be purged with an inert gas. Polygodial is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of polygodial in ethanol and DMSO is approximately 20 mg/ml and approximately 14 mg/ml in DMF.

Polygodial is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, polygodial should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. Polygodial has a solubility of approximately 0.02 mg/ml in a 1:40 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Polygodial is a sesquiterpene dialdehyde isolated from the leaves of certain peppers and related plants. Noted for its broad antifungal properties, polygodial is also cytotoxic against bacteria, algae, and sea squirts.[1-3] In mammals, polygodial produces a pungent flavor, activates the transient receptor potential cation channel TRPA1 (EC_{50} = 59 nM), and produces antinociception.[4,5]

References

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2. Anke, H. and Sterner, O. Comparison of the antimicrobial and cytotoxic activities of twenty unsaturated sesquiterpene dialdehydes from plants and mushrooms. *Planta Med.* **57(4)**, 344-346 (1991).
3. Cahill, P., Heasman, K., Jeffs, A., *et al.* Preventing ascidian fouling in aquaculture: screening selected allelochemicals for anti-metamorphic properties in ascidian larvae. *Biofouling* **28(1)**, 39-49 (2012).
4. Baraldi, P.G., Preti, D., Materazzi, S., *et al.* Transient receptor potential ankyrin 1 (TRPA1) channel as emerging target for novel analgesics and anti-inflammatory agents. *J. Med. Chem.* **53(14)**, 5085-5107 (2010).
5. Mendes, G.L., Santos, A.R.S., Malheiros, A., *et al.* Assessment of mechanisms involved in antinociception caused by sesquiterpene polygodial. *J. Pharmacol. Exp. Ther.* **292(1)**, 164-172 (2000).

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