

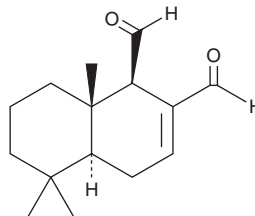
# PRODUCT INFORMATION



## 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<sub>15</sub>H<sub>22</sub>O<sub>2</sub>  
**FW:** 234.3  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 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.<sup>1-3</sup> In mammals, polygodial produces a pungent flavor, activates the transient receptor potential cation channel TRPA1 (EC<sub>50</sub> = 59 nM), and produces antinociception.<sup>4,5</sup>

### References

1. Lee, S.H., Lee, J.R., Lunde, C.S., *et al.* *In vitro* antifungal susceptibilities of *Candida albicans* and other fungal pathogens to polygodial, a sesquiterpene dialdehyde. *Planta Med.* **65(3)**, 204-208 (1999).
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).

#### 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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