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.: \( \lambda_{\text{max}} = 230 \text{ nm} \)
Supplied as: A crystalline solid
Storage: -20°C
Stability: As supplied, 2 years from the QC date provided on the Certificate of Analysis, when stored properly

Laboratory Procedures

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