

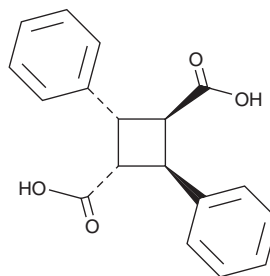
PRODUCT INFORMATION



α -Truxillic Acid

Item No. 14865

CAS Registry No.: 490-20-0
Formal Name: (1 α ,2 α ,3 β ,4 β)-2,4-diphenyl-1,3-cyclobutanedicarboxylic acid
Synonym: Gratissimic Acid
MF: C₁₈H₁₆O₄
FW: 296.3
Purity: \geq 98%
UV/Vis.: λ_{max} : 259 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: \geq 4 years



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

Laboratory Procedures

α -Truxillic acid is supplied as a crystalline solid. A stock solution may be made by dissolving the α -truxillic acid in the solvent of choice. α -Truxillic acid is soluble in organic solvents such as DMSO and dimethyl formamide, which should be purged with an inert gas. The solubility of α -truxillic acid in these solvents is approximately 20 and 16 mg/ml, respectively.

α -Truxillic acid is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, α -truxillic acid should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. α -Truxillic acid has a solubility of approximately 0.07 mg/ml in a 1:12 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

α -Truxillic acid can be formed by the dimerization of two molecules of α -*trans*-cinnamic acid.¹ It is related to incarvillateine, a natural antinociceptive compound derived from the Asian herb *I. sinensis*.² α -Truxillic acid and some of its derivatives significantly block inflammatory pain while having little effect on neurogenic pain, as indicated by the formalin test in mice.^{2,3} Related compounds, like SB-FI-26 (Item No. 14191), bind fatty acid binding protein 5 (FABP5).⁴ This may be related to pain suppression, since FABP5 acts as a transporter of the endocannabinoid anandamide.⁵ While certain derivatives of α -truxillic acid can directly activate peroxisome proliferator-activated receptor γ , α -truxillic acid has no such activity.⁶

References

1. Benedict, J.B. and Coppens, P. *J. Phys. Chem. A* **113**(13), 3116-3120 (2009).
2. Chi, Y.-M., Nakamura, M., Yoshizawa, T., et al. *Biol. Pharm. Bull.* **28**(9), 1776-1778 (2005).
3. Chi, Y.-M., Nakamura, M., Zhao, X.-Y., et al. *Biol. Pharm. Bull.* **29**(3), 580-584 (2006).
4. Berger, W.T., Ralph, B.P., Kaczocha, M., et al. *PLoS One* **7**(12), (2012).
5. Kaczocha, M., Glaser, S.T., and Deutsch, D.G. *Proc. Natl. Acad. Sci. USA* **106**(15), 6375-6380 (2009).
6. Steri, R., Rupp, M., Proschak, E., et al. *Bioorg. Med. Chem. Lett.* **20**(9), 2920-2923 (2010).

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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