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Zuschläge

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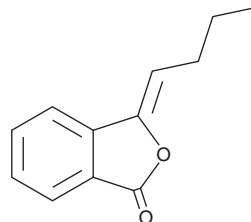
PRODUCT INFORMATION



3-Butylidenephthalide

Item No. 34983

CAS Registry No.: 551-08-6
Formal Name: 3-butylidene-1(3H)-isobenzofuranone
Synonym: NSC 325307
MF: C₁₂H₁₂O₂
FW: 188.2
Purity: ≥98%
UV/Vis.: λ_{max}: 216, 235, 260, 270, 311 nm
Supplied as: A neat liquid
Storage: -20°C
Stability: ≥2 years
Item Origin: Synthetic



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

Laboratory Procedures

3-Butylidenephthalide is supplied as a liquid. A stock solution may be made by dissolving the 3-butylidenephthalide in the solvent of choice, which should be purged with an inert gas. 3-Butylidenephthalide is soluble in ethanol. 3-Butylidenephthalide is slightly soluble in chloroform and ethyl acetate.

Description

3-Butylidenephthalide is a plant metabolite that has been found in *L. jeholense* and has diverse biological activities.¹⁻⁴ 3-Butylidenephthalide (60 µg/ml) induces apoptosis and inhibits migration and the epithelial-to-mesenchymal transition (EMT) in 5637, BFTC-905, T24, and TCCSUP human bladder cancer cells.² *In vivo*, 3-butylidenephthalide (100 and 200 mg/kg) reduces tumor volume in a BFTC-905 mouse xenograft model. 3-Butylidenephthalide (400 mg/kg) increases life span and reduces spinal motor neuron loss in an SOD1^{G93A} mouse model of amyotrophic lateral sclerosis (ALS).³ It also reduces ungradable polyglutamine (polyQ) accumulation and cerebral atrophy, as well as improves motor coordination in a mouse model of spinocerebellar ataxia type 3 (SCA3), effects that can be reversed by the autophagy inhibitors bafilomycin A₁ (Item No. 11038) and wortmannin (Item No. 10010591).⁴ It is toxic to adult tobacco beetles (*L. serricornis*; LD₅₀ = 13.64 µg/insect).¹

References

1. Luo, C., Li, D.-L., Wang, Y., *et al.* Bioactivities of 3-butylidenephthalide and *n*-butylbenzene from the essential oil of *Ligusticum jeholense* against stored-product insects. *J. Oleo Sci.* **68(9)**, 931-937 (2019).
2. Chiu, S.-C., Chiu, T.-L., Huang, S.-Y., *et al.* Potential therapeutic effects of *N*-butylidenephthalide from *Radix Angelica Sinensis* (*Danggui*) in human bladder cancer cells. *BMC Complement. Altern. Med.* **17(1)**, 523 (2017).
3. Zhou, Q.-M., Zhang, J.-J., Li, S., *et al.* *n*-butylidenephthalide treatment prolongs life span and attenuates motor neuron loss in SOD1^{G93A} mouse model of amyotrophic lateral sclerosis. *CNS Neurosci. Ther.* **23(5)**, 375-385 (2017).
4. Lee, J.-H., Lin, S.-Y., Liu, J.-W., *et al.* *n*-Butylidenephthalide modulates autophagy to ameliorate neuropathological progress of spinocerebellar ataxia type 3 through mTOR pathway. *Int. J. Mol. Sci.* **22(12)**, 6339 (2021).

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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