

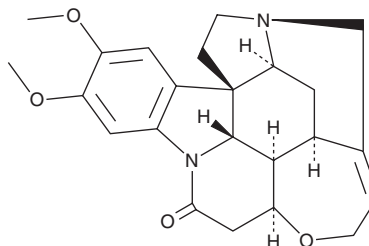
PRODUCT INFORMATION



Brucine

Item No. 27221

CAS Registry No.: 357-57-3
Formal Name: 2,3-dimethoxy-strychnidin-10-one
Synonym: 2,3-Dimethoxystrychnine
MF: C₂₃H₂₆N₂O₄
FW: 394.5
Purity: ≥98%
UV/Vis.: λ_{max}: 210, 264, 304 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years
Item Origin: Plant/*Strychnos nux-vomica* seeds



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

Laboratory Procedures

Brucine is supplied as a crystalline solid. A stock solution may be made by dissolving the brucine in the solvent of choice. Brucine is soluble in organic solvents such as chloroform and acetonitrile, which should be purged with an inert gas. The solubility of brucine in these solvents is approximately 30 and 10 mg/ml, respectively.

Description

Brucine is an alkaloid that has been found in the seeds of the *S. nux-vomica* tree and has diverse biological activities, including anti-inflammatory, anticancer, and antioxidant properties.¹ It inhibits prostaglandin E₂ (PGE₂; Item No. 14010) production induced by LPS *in vitro*.² Topical administration of brucine decreases synovocyte proliferation and reduces paw and joint swelling in a rat model of adjuvant-induced arthritis and decreases swelling in a mouse model of xylene-induced ear edema. Brucine (4 and 8 mg/kg per day) reduces tumor incidence, number, and volume in a rat model of mammary gland tumorigenesis induced by 7,12-dimethylbenz(a)anthracene (DMBA).¹ It prevents decreases in superoxide dismutase (SOD), catalase (CAT), and glutathione peroxidase (GPX) activity and increases the level of glutathione (GSH) in mammary tissues, as well as reduces markers of lipid peroxidation in plasma and mammary tissue. Brucine also allosterically enhances the effect of low, but not high, concentrations of acetylcholine at M₁ muscarinic acetylcholine receptors.³

References

1. Saminathan, U., Pugalendhi, P., Subramaniyan, S., *et al.* Biochemical studies evaluating the chemopreventive potential of brucine in chemically induced mammary carcinogenesis of rats. *Toxicol. Mech. Methods* **29**(1), 8-17 (2019).
2. Wu, P., Liang, Q., Feng, P., *et al.* A novel brucine gel transdermal delivery system designed for anti-inflammatory and analgesic activities. *Int. J. Mol. Sci.* **18**(4), e757 (2017).
3. Birdsall, N.J., Farries, T., Gharagozloo, P., *et al.* Selective allosteric enhancement of the binding and actions of acetylcholine at muscarinic receptor subtypes. *Life Sci.* **60**(13-14), 1047-1052 (1997).

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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