

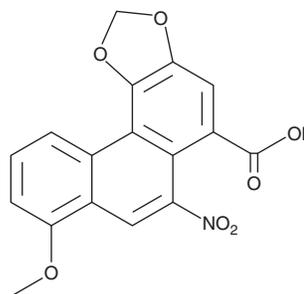
PRODUCT INFORMATION



Aristolochic Acid

Item No. 21520

CAS Registry No.: 313-67-7
Formal Name: 8-methoxy-6-nitro-phenanthro[3,4-d]-1,3-dioxole-5-carboxylic acid
Synonyms: Aristolochic Acid I, Aristolochic Acid A, NSC 11926, NSC 50413, Tardolyt
MF: C₁₇H₁₁NO₇
FW: 341.3
Purity: ≥98%
UV/Vis.: λ_{max}: 224, 320, 388 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

Aristolochic acid is supplied as a crystalline solid. A stock solution may be made by dissolving the aristolochic acid in the solvent of choice, which should be purged with an inert gas. Aristolochic acid is soluble in organic solvents such as ethanol and DMSO. The solubility of aristolochic acid in DMSO is approximately 25 mg/ml. Aristolochic acid is also slightly soluble in water. We do not recommend storing the aqueous solution for more than one day.

Description

Aristolochic acid is an alkaloid originally isolated from *A. radix* that inhibits inflammatory phospholipase A₂ (PLA₂) activity (IC₅₀ = 40 μM in human neutrophils).¹ It inhibits human synovial fluid PLA₂-induced edema in a dose-dependent manner *in vivo* which positively correlates with *in vitro* inhibition of PLA₂.² Aristolochic acid inhibits hemolytic activity of PLA₂s TFV PL-X, TFV PL-Ia, and TFV PL-Ib from *T. flavoviridis* venom (IC₅₀s = 4.6, 4.0, and 3.9 μM, respectively) but enhances the edema-inducing activity of TFV PL-Ia and TFV PL-Ib.³ Aristolochic acid exposure is also associated with progressive interstitial fibrosing nephropathy and upper urinary tract urothelial carcinomas.⁴

References

1. Rosenthal, M.D., Vishwanath, B.S., and Franson, R.C. Effects of aristolochic acid on phospholipase A₂ activity and arachidonate metabolism of human neutrophils. *Biochim Biophys. Acta.* **1001(1)**, 1-8 (1989).
2. Vishwanath, B.S., Fawzy, A.A., and Franson, R.C. Edema-inducing activity of phospholipase A₂ purified from human synovial fluid and inhibition by aristolochic acid. *Inflammation* **12(6)**, 549-561 (1988).
3. Goldsmith, P., Gierschik, P., Milligan, G., *et al.* Antibodies directed against synthetic peptides distinguish between GTP-binding proteins in neutrophil and brain. *J. Biol. Chem.* **262(30)**, 14683-14688 (1987).
4. Aydin, S., Ambrose, J., Cosyns, J.-P., *et al.* TP53 mutations in p53-negative dysplastic urothelial cells from Belgian AAN patients: New evidence for aristolochic acid-induced molecular pathogenesis and carcinogenesis. *Mutat. Res.* **818**, 17-26 (2017).

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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