

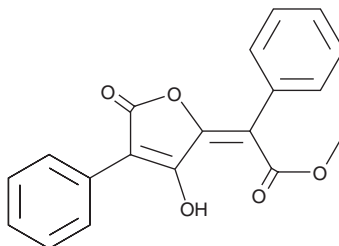
PRODUCT INFORMATION



Vulpinic Acid

Item No. 21685

CAS Registry No.: 521-52-8
Formal Name: α E-(3-hydroxy-5-oxo-4-phenyl-2(5H)-
furanylidene)-benzeneacetic acid,
methyl ester
Synonym: NSC 5897
MF: $C_{19}H_{14}O_5$
FW: 322.3
Purity: $\geq 98\%$
UV/Vis.: λ_{max} : 233, 281, 367 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

Vulpinic acid is supplied as a crystalline solid. A stock solution may be made by dissolving the vulpinic acid in the solvent of choice, which should be purged with an inert gas. Vulpinic acid is soluble in organic solvents such as DMSO and dimethyl formamide (DMF). The solubility of vulpinic acid in these solvents is approximately 20 and 30 mg/ml, respectively.

Vulpinic acid is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, vulpinic acid should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Vulpinic acid has a solubility of approximately 0.33 mg/ml in a 1:2 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Vulpinic acid is a lichen metabolite that has been found in *L. vulpina* and has diverse biological activities.¹⁻⁴ It is active against *C. perfringens*, *B. vulgatus*, *B. fragilis*, *B. loescheii*, *P. acnes*, *E. faecium*, and methicillin-susceptible and -resistant *S. aureus* (MICs = 4-16 $\mu\text{g/ml}$).¹ Vulpinic acid (25-800 μM) prevents UVB-induced apoptosis, cytotoxicity, and cytoskeletal modifications in HaCaT human keratinocytes.² It also increases scratch wound healing of HaCaT cells.³ Vulpinic acid (15 μM) reduces hydrogen peroxide-induced production of reactive oxygen species (ROS) and cytotoxicity in human umbilical vein endothelial cells (HUVECs).⁴

References

1. Lauterwein, M., Oethinger, M., Belsner, K., et al. In vitro activities of the lichen secondary metabolites vulpinic acid, (+)-usnic acid, and (–)-usnic acid against aerobic and anaerobic microorganisms. *Antimicrob. Agents Chemother.* **39(11)**, 2541-2543 (1995).
2. Varol, M., Türk, A., Candan, M., et al. Photoprotective activity of vulpinic and gyrophoric acids toward ultraviolet B-induced damage in human keratinocytes. *Phytother. Res.* **30(1)**, 9-15 (2016).
3. Burlando, B., Ranzato, E., Volante, A., et al. Antiproliferative effects on tumour cells and promotion of keratinocyte wound healing by different lichen compounds. *Planta. Med.* **75(6)**, 607-613 (2009).
4. Sahin, E., Psav, S.D., Avan, I., et al. Vulpinic acid, a lichen metabolite, emerges as a potential drug candidate in the therapy of oxidative stress-related diseases, such as atherosclerosis. *Hum. Exp. Toxicol.* **38(6)**, 675-684 (2019).

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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