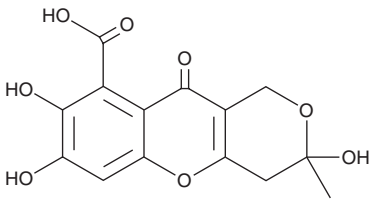
PRODUCT INFORMATION

Fulvic Acid

Item No. 19063

CAS Registry No.: 479-66-3
Formal Name: 4,10-dihydro-3,7,8-trihydroxy-3-methyl-10-oxo-1H,3H-pyrano[4,3-b][1]benzopyran-9-carboxylic acid
MF: $C_{14}H_{12}O_8$
FW: 308.2
Purity: ≥98%
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years
Item Origin: Fungus/*Penicillium* sp. FKP-0046



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

Laboratory Procedures

Fulvic acid is supplied as a solid. A stock solution may be made by dissolving the fulvic acid in the solvent of choice, which should be purged with an inert gas. Fulvic acid is soluble in organic solvents such as methanol and chloroform.

Description

Fulvic acid is a phenolic acid and fungal metabolite originally isolated from *Penicillium*.[1] Fulvic acids are formed *via* degradation of organisms and their wastes and are classified as humic substances, which are present in soil and water, can form complexes with metals, and can act as oxidizers or reducers.[2,3] Fulvic acid is predicted to inhibit amyloid-β (17-42) ($Aβ_{17-42}$) dimerization, disrupt preformed $Aβ_{17-42}$ trimers, and bind to the catalytic site of phosphodiesterase 5A (PDE5A) based on molecular dynamics simulation studies.[4,5]

References

1. Oxford, A.E., Raistrick, H., and Simonart, P. CXXXIX. Studies in the biochemistry of micro-organisms. XLIV. Fulvic acid, a new crystalline yellow pigment, a metabolic product of *P. griseo-fulvum* Dierckx, *P. flexuosum* Dale and *P. Brefeldianum* Dodge. *Biochem J.* **29(5)**, 1102-1115 (1935).
2. Saar, R.A. and Weber, J.H. Fulvic acid: Modifier of metal-ion chemistry. *Environ. Sci. Technol.* **16(9)**, 510A-517A (1982).
3. Klapper, L., McKnight, D.M., Blunt-Harris, E.L., *et al.* Fulvic acid oxidation state detection using fluorescence spectroscopy. *Environ. Sci. Technol.* **36(14)**, 3170-3175 (2002).
4. Verma, S., Singh, A., and Mishra, A. The effect of fulvic acid on pre- and postaggregation state of $Aβ_{17-42}$: Molecular dynamics simulation studies. *Biochim Biophys. Acta.* **1834(12)**, 2867-2868 (2013).
5. Verma, S., Singh, A., and Mishra, A. Molecular insight in to the selective inhibition of Phosphodiesterase 5A by fulvic acid (principal constituent of shilajit): Molecular dynamics simulation evidences. *Int. J. Drug Design Discov.* **3(4)**, 879-885 (2012).

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