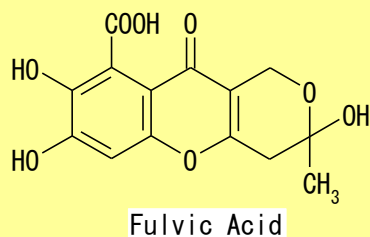


## Fulvic Acid

Cat.# BLK0430

## Structure

Origin: *Penicillium* sp. FKP-0046

CAS Registry Number: 479-66-3

CA Index Name: 4,10-Dihydro-3,7,8-trihydroxy-3-methyl-10-oxo-1*H*,3*H*-pyrano[4,3-*b*][1]benzopyran-9-carboxylic Acid

Appearance: yellow solid

Molecular Formula/ Weight: C<sub>14</sub>H<sub>12</sub>O<sub>8</sub>=308.24

Melting Point: 247°C(dec.) Purity: &gt;95% by HPLC

Solubility: Sol. MeOH, Benzene, Chloroform  
Inso. water

pKa: log P: 1.46

## Background Information:

Fulvic acid is an organic acid of polyelectrolyte that featured with quinonyls and carboxyls etc. Fulvic acid has enormous potential to heal soils of the world and to neutralize radioactive and toxic wastes.<sup>1)</sup> Fulvic acid was also isolated from the microbial secondary metabolites such as *Penicillium griseo-fulvum Dierckx*.<sup>2)</sup> Fulvic acid is powerful natural free radical scavenger and antioxidant.<sup>3)</sup> Also it chelates and binds scores of minerals into a bioavailable form used by cells. Once the nutrients meld into the fulvic acid complex, they become bioactive and bioavailable, which accelerates the absorption of nutrients and hence the synthesis of the chlorophyll as well as accumulation of dry matters.<sup>4)</sup>

## Handling and Storage:

Store at -20°C.

## References:

1. N. Senesi, *Analytica Chimica Acts.* **232**, 51-75 (1990).
2. A. E. Oxford, et. al., *Biochem J.* **29**, 1102-1115 (1935).
3. C. Wang, et al., *Sci. China C Life Sci.* **39**, 267-275 (1996).
4. C. M. Yang., et. al., *J. Chem. Ecol.* **30**, 1057-1065 (2004).

Manufactured with Cortesy strain from The Kitasato Institute.

(ID#: FKP-0046)