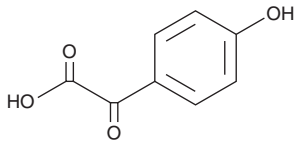
PRODUCT INFORMATION

4-Hydroxyphenylglyoxylic Acid

Item No. 38121

CAS Registry No.: 15573-67-8
Formal Name: 4-hydroxy-α-oxo-benzeneacetic acid
Synonym: UK 22486
MF: $C_8H_6O_4$
FW: 166.1
Purity: ≥95%
UV/Vis.: λ_{max}: 225, 295 nm
Supplied as: A 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

4-Hydroxyphenylglyoxylic acid is supplied as a solid. A stock solution may be made by dissolving the 4-hydroxyphenylglyoxylic acid in the solvent of choice, which should be purged with an inert gas. 4-Hydroxyphenylglyoxylic acid is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of 4-hydroxyphenylglyoxylic acid in ethanol is approximately 10 mg/ml and approximately 20 mg/ml in DMSO and DMF.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of 4-hydroxyphenylglyoxylic acid can be prepared by directly dissolving the solid in aqueous buffers. The solubility of 4-hydroxyphenylglyoxylic acid in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

4-Hydroxyphenylglyoxylic acid is an inhibitor of carnitine palmitoyltransferase 1 (CPT1) and an active metabolite of the prodrug oxfenicine (Item No. 33698).[1] It inhibits CPT1 in isolated rat liver mitochondria when used at concentrations ranging from 200 to 1,000 µM and inhibits oleate oxidation in isolated rat hepatocytes.[2]

References

1. Stephens, T.W., Higgins, A.J., Cook, G.A., *et al.* Two mechanisms produce tissue-specific inhibition of fatty acid oxidation by oxfenicine. *Biochem. J.* **227**, 651-660 (1985).
2. Stephens, T.W. and Harris, R.A. Effect of starvation and diabetes on the sensitivity of carnitine palmitoyltransferase I to inhibition by 4-hydroxyphenylglyoxylate. *Biochem J.* **243(2)**, 405-412 (1987).

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