Purpurin
Item No. 11752

CAS Registry No.: 81-54-9
Formal Name: 1,2,4-trihydroxy-9,10-anthracenedione
Synonyms: Hydroxylizaric Acid, NSC 10447, Verantin
MF: C_{14}H_{8}O_{5}
FW: 256.2
Purity: ≥95%
Stability: ≥2 years at room temperature
Supplied as: A crystalline solid
UV/Vis.: \lambda_{max}^\circ: 255, 484 nm

Laboratory Procedures

For long term storage, we suggest that purpurin be stored as supplied at room temperature. It should be stable for at least two years.

Purpurin is supplied as a crystalline solid. A stock solution may be made by dissolving the purpurin in the solvent of choice. Purpurin is soluble in organic solvents such as DMSO and dimethyl formamide, which should be purged with an inert gas. The solubility of purpurin in these solvents is approximately 0.5 mg/ml.
Purpurin is sparingly soluble in aqueous solutions. To enhance aqueous solubility, dilute the organic solvent solution into aqueous buffers or isotonic saline. If performing biological experiments, ensure the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

Description

Purpurin is a naturally occurring reddish-yellow pigment found in madder root (R. tinctorum) that has been used both in herbal remedies and as food coloring. It can also be synthetically derived from 9,10-anthaquinone. Purpurin is protective against a number of food-derived heterocyclic amines in bacterial mutagenicity assays through its inhibition of CYP450-dependent N-hydroxylation and reduction of N-hydroxylamines.\textsuperscript{1} Purpurine can also inhibit (IC\textsubscript{50} = 6.6 \mu M) spermidine-induced autoactivation of plasma hyaluronan-binding protein, a serine protease that can activate coagulation factor VII and prourokinase.\textsuperscript{2}

References