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TECHNICAL INFORMATION

Catalog Number: 102023

Hydroxyurea

Structure:

Molecular Formula: CH₄N₂O₂ Molecular Weight: 76.05

CAS #: 127-07-1

Synonym: Hydroxycarbamide

Physical Description: White to off-white crystalline powder

Solubility: Freely soluble in water (50 mg/ml-clear colorless solution) or hot alcohol.¹

Description: Inhibitor of DNA synthesis. 1,2,3,5 A ribonucleotide reductase inhibitor - inhibits by forming a free radical nitroxide that binds a tyrosyl free radical in the active site of the enzyme.⁴ Induces fetal hemoglobin production in sickle cell anemia patients.1

References:

Merck Index. 13th Ed., No. 4874.

- Gui, C.Y., et al., "The apoptosis of HEL cells induced by hydroxyurea." Cell. Res., v. 7, 91-97 (1997).
- Hendricks, S.P. and Mathews, C.K., "Differential effects of hydroxyurea upon deoxyribonucleoside triphosphate pools, analyzed with vaccinia virus ribonucleotide reductase." J. Biol. Chem., v. 273, 29519-29523 (1998).
- Lassmann, G., et al., "EPR stopped-flow studies of the reaction of the tyrosyl radical of protein R2 from ribonucleotide reductase with hydroxyurea." *Biochem. Biophys. Res. Commun.*, **v. 188**, 879-887 (1992). – Yarbro, J.W., "Mechanism of action of hydroxyurea." *Semin Oncol.*, **v. 19 (Suppl. 9)**, 1-10 (1992).