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ProductInformation

Hydroxyurea

Product Number **H 8627**
Storage Temperature 2-8 °C

Product Description

Molecular Formula: $CH_4N_2O_2$
Molecular Weight: 76.06
CAS Number: 127-07-1
Melting Point: 133-136 °C[1]; 141 °C[2]

Hydroxyurea is a specific inhibitor of DNA synthesis, *in vivo*, and an antiviral and antineoplastic agent which is S-phase specific.[3,4] It does not affect RNA and protein synthesis. While hydroxyurea causes chromosome breakage, DNA repair synthesis is not inhibited, so its actions are reversible. The inhibitory mechanism of hydroxyurea is postulated to involve inhibition of the enzyme ribonucleotide reductase,[5] and thus, the synthesis of deoxyribonucleotides from ribonucleotides.

A procedure has been published for the use of hydroxyurea in cell synchronization after serum deprivation.[6]

Precautions and Disclaimer

For Laboratory Use Only. Not for drug, household or other uses.

Preparation Instructions

Hydroxyurea is freely soluble in water, to at least 50 mg/ml (5%). However, because hydroxyurea decomposes in the presence of moisture,[4] aqueous solutions are probably not stable.

It is recommended to store hydroxyurea at 2-8 °C. Hydroxyurea should be stored in a dry atmosphere in airtight containers.[4]

References

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3. Data for Biochemical Research, 3rd ed., Dawson, R.M.C., et al., Oxford University Press (New York, NY: 1986), pp. 270-271.
4. Martindale: The Extra Pharmacopoeia, 30th ed., Reynolds, J.E.F., ed., The Pharmaceutical Press (London, England: 1993), p. 483.
5. Szekeres, T., et al., The Enzyme Ribonucleotide Reductase: Target for Antitumor and anti-HIV Therapy. Crit. Rev. Clin. Lab. Sci., **34(6)**, 503-528 (1997).
6. Ashihara, T., and Baserga, R., Cell Synchronization. Meth. Enzymol., **58**, 248-262 (1979).

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