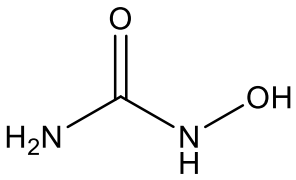
Catalog # 10-3510

Hydroxyurea

CAS# 127-07-1

N-Hydroxyurea; Hydroxycarbamide

Lot # X108475



Readily oxidized *in vivo* to free radical forms, which destroy the stable tyrosyl free radical of the metalloenzyme ribonucleotide reductase, suppressing deoxyribonucleotide production and blocking DNA synthesis and repair.[1,2] Reduces cell proliferation, and causes S-phase arrest and death.[3] Induces p53-dependent NF-κB target gene expression in U2OS cells expressing HA-RelA.[4] Stimulates fetal hemoglobin production *in vitro* and *in vivo.*[5] Allows for S phase enrichment of CHO cells with maintenance of viability for enhanced site-specific genome engineering.[6] Anticancer and antiviral agent.

1) Gräsland *et al*. (1985), *The tyrosyl free radical in ribonucleotide reductase*; Environ. Health Perspect., **64** 139
2) Yarbro (1992), *Mechanism of action of hydroxyurea*; Semin. Oncol., **3 (Suppl 9)** 1
3) Singh and Xu (2016), *The Cell Killing Mechanisms of Hydroxyurea*; Genes (Basel), **7** 99
4) Campbell *et al.* (2021), *Temporal modulation of the NF-kB Re1A network in response to different types of DNA damage*; Biochem. J., **478** 533
5) Baliga *et al*. (2000), *Mechanism for fetal hemoglobin induction by hydroxyurea in sickle cell erythroid progenitors*; Am. J. Hematol., **65** 227
6) Kwak *et al*. (2021), *Hydroxyurea selection for enhancement of homology-directed targets integration of transgenes in CHO cells*; N. Biotechnol, **62** 26

PHYSICAL DATA

Molecular Weight:	76.06
Molecular Formula:	$CH_4N_2O_2$
Purity:	>98% by HPLC
	NMR: (Conforms)
Solubility:	Water (50 mg/ml)
Physical Description:	White solid
Storage and Stability:	Store as supplied desiccated at -20°C for up to 2 years from the date of purchase. Solutions in water may be stored at -20°C for up to 3 months.

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