

Hydroxyurea

货号: H6113

储存条件: 粉末-20°C 可保存 3 年; 液体-80°C 可保存 12 月。

产品描述

Ribonucleotide reductase (RNR) is an enzyme that catalyses the rate limiting step in the production of deoxyribonucleotides needed for DNA synthesis. RNR inhibitors are a family of anti-cancer drugs because they could affect the growth of tumor cells by interfering the DNA synthesis. Hydroxyurea (HU) is the inhibitor of ribonucleotide reductase (RNR) with IC50 value of 150 μ M.

The ML L5178 cells, HU treatment at concentrations 0.25 mmol/l resulted in significant increases of DNA damage, detected as strand breaks in the alkaline comet assay. After incubation with 2 mM HU for 4 hours on MCF7 cells, the level of phosphorylated RPA2 measured significantly increased and for 6 hours the percentage of cells with ssDNA was markedly decreased.

The pregnant C57BL/6 mice was intraperitoneally injected with 225 mg/kg HU and their embryos were explanted later. The RNR activity decreased significantly after 1 hour and the dNTP level in the brain tissues was attenuated with time.

作用机制

The HU is converted into its oxidized form compound III in the radical site of the ribonucleotide reductase protein. The compound III then reacts with the active site residues specially Tyr-176, and inhibits the radical generation and subsequently inhibits the RNR enzyme.

产品信息

CAS 号	127-07-1	
分子式	CH4N2O2	
分子量	76.05	
别名	NCI-C04831; NSC-32065; Hydroxycarbamide; Biosupressin	
溶解度	DMSO	14.0 mg/mL (184.1 mM)
	Ethanol	Insoluble

