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3'-C-ethynylcytidine

National Cancer Institute

Source

National Cancer Institute. *3'-C-ethynylcytidine*. NCI Thesaurus. Code C29475.

A synthetic cytidine nucleoside containing a covalently bound ethynyl group with potential antineoplastic and radiosensitizing activities. 3'-C-ethynylcytidine is metabolized in tumor cells to ethynylcytidine triphosphate (ECTP), which inhibits RNA synthesis by competitive inhibition of RNA polymerases I, II and III; subsequently, RNase L is activated, resulting in apoptosis. RNase L is a potent antiviral and antiproliferative endoribonuclease that cleaves single stranded RNA, causes 28S rRNA fragmentation, and activates Janus Kinase (JAK), a mitochondrial-dependent apoptosis signaling molecule.