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3-AP/Fludarabine

National Cancer Institute

Source

National Cancer Institute. *3-AP/Fludarabine*. NCI Thesaurus. Code C38719.

A combination of the thiosemicarbazone 3-aminopyridine-2-carboxaldehyde (3-AP) and the nucleoside analogue fludarabine with antineoplastic activity. The agents in 3-AP/fludarabine, act synergistically to inhibit the enzyme ribonucleotide reductase.. Composed of two subunits, this enzyme catalyzes the rate-limiting step in the conversion of ribonucleotides to deoxyribonucleotides. The 3-AP binds to and inactivates one subunit while fludarabine binds to and inactivates the other. Fludarabine also inhibits DNA polymerase alpha and DNA primase. At low concentrations, this agent arrests tumor cells in the S-phase of the cell cycle; at higher concentrations, in the G0/G1 phase of the cell cycle. (NCI04)