Open Peer Review on Qeios

Ancitabine Hydrochloride

National Cancer Institute

Source

National Cancer Institute. Ancitabine Hydrochloride. NCI Thesaurus. Code C403.

The hydrochloride salt of a cytarabine congener prodrug with antineoplastic activity. Upon administration, ancitabine is slowly hydrolyzed into cytarabine. Subsequently, cytarabine is converted to the triphosphate form within the cell and then competes with cytidine for incorporation into DNA. Because the arabinose sugar sterically hinders the rotation of the molecule within DNA, DNA replication ceases, specifically during the S phase of the cell cycle. Cytarabine agent also inhibits DNA polymerase, resulting in a decrease in DNA replication and repair. Compared to cytarabine, a more prolonged, consistent cytarabine-mediated therapeutic effect may be achieved with ancitabine because of the slow hydrolytic conversion of ancitabine to cytarabine.