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CHK1 Inhibitor MK-8776

National Cancer Institute

Source

National Cancer Institute. *CHK1 Inhibitor MK-8776*. NCI Thesaurus. Code C79867.

An agent targeting cell cycle checkpoint kinase 1 (Chk1) with potential radiosensitization and chemosensitization activities. Chk1 inhibitor MK-8776 specifically binds to and inhibits Chk1, which may result in tumor cells bypassing Chk1-dependent cell cycle arrest in the S and G2/M phases to undergo DNA repair prior to entry into mitosis; tumor cells may thus be sensitized to the DNA-damaging effects of ionizing radiation and alkylating chemotherapeutic agents. Chk1 is an ATP-dependent serine-threonine kinase that in response to DNA damage phosphorylates cdc25 phosphatases, resulting in inhibitory tyrosine phosphorylation of CDK-cyclin complexes and cell cycle arrest.