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# Topoisomerase-1 Inhibitor LMP744

National Cancer Institute

## Source

National Cancer Institute. *Topoisomerase-1 Inhibitor LMP744*. NCI Thesaurus. Code C127900.

An indenoisoquinoline derivative and topoisomerase 1 (Top1) inhibitor, with potential antineoplastic activity. Upon administration, LMP744 binds to and stabilizes cleaved DNA-Top1 complexes, which prevents DNA re-ligation, induces stable, irreversible DNA strand breaks, prevents DNA repair, and leads to cell cycle arrest and apoptosis. As tumor cells proliferate at a much higher rate than normal cells, LMP744 specifically targets cancer cells. Top1, a DNA modifying enzyme essential for transcription, replication, and repair of double-strand DNA breaks, is overexpressed in tumor cells.