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Topoisomerase III

National Cancer Institute

Source

National Cancer Institute. *Topoisomerase III*. NCI Thesaurus. Code C17340.

Topoisomerase III belongs to type IA topoisomerases subfamily (includes archaeobacterial reverse gyrase, bacterial topo I and topo III, which all form covalent 5'phosphotyrosine linkage with cleaved DNA). Topo III does not play a major role in regulating DNA supercoiling, however, genetic experiments implicate that it plays a role in suppressing mitotic recombination and in resolving recombined homologous chromosomes during meiosis I. Topo III also has been demonstrated to interact with RecQ family of DNA helicases, which includes the Bloom's syndrome, Werner's syndrome, and Rothmund-Thomson syndrome gene products.