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Silver Sulfadiazine

National Cancer Institute

Source

National Cancer Institute. *Silver Sulfadiazine*. NCI Thesaurus. Code C66567.

A sulfonamide-based topical agent with antibacterial and antifungal activity. Silver sulfadiazine may act through a combination of the activity of silver and sulfadiazine. When this agent interacts with sodium chloride-containing body fluids, silver ions are released slowly and sustainably into wounded areas. Ionized silver atoms catalyze the formation of disulfide bonds leading to protein structural changes and inactivating thiol-containing enzymes; silver ions may also intercalate DNA thereby interfering with replication and transcription of bacteria. As a competitive inhibitor of para-aminobenzoic acid (PABA), sulfadiazine inhibits bacterial dihydropteroate synthase, thereby resulting in disruption of folic acid metabolism and ultimately DNA synthesis.