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8-Azaguanine

National Cancer Institute

Source

National Cancer Institute. *8-Azaguanine*. NCI Thesaurus. Code C28788.

A purine analogue with potential antineoplastic activity. 8-Azaguanine interferes with the modification of transfer ribonucleic acid (tRNA) by competing with guanine for incorporation into tRNA catalyzed by the enzyme tRNA-guanine ribosyltransferase (tRNA-guanine transglycosylase). Altered guanine modification of tRNA has been implicated in cellular differentiation and neoplastic transformation. 8-Azaguanine also inhibits the formation of 43S and 80S initiation complexes, thereby interfering with initiation of translation and inhibiting protein synthesis. This agent inhibits tumor cell growth and stimulates cell differentiation. (NCI04)