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Asparaginase *Erwinia chrysanthemi*

National Cancer Institute

Source

National Cancer Institute. *Asparaginase Erwinia chrysanthemi*. NCI Thesaurus. Code C64260.

An enzyme isolated from the bacterium *Erwinia chrysanthemi* (*E. carotovora*). Asparagine is critical to protein synthesis in leukemic cells, which cannot synthesize this amino acid due to the absence of the enzyme asparagine synthase. Asparaginase hydrolyzes L-asparagine to L-aspartic acid and ammonia, thereby depleting leukemic cells of asparagine and blocking protein synthesis and tumor cell proliferation, especially in the G1 phase of the cell cycle. This agent also induces apoptosis in tumor cells. The *Erwinia*-derived product is often used for those patients who have experienced a hypersensitivity reaction to the *E. Coli* formulation.