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In vitro chemosensitivity testing of Fotemustine (S 10036), a new antitumor nitrosourea.

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Abstract

Fotemustine (S 10036) is a new anti-tumor nitrosourea characterized by a phosphonoalanine carrier group coupled to the nitrosourea moiety, which potentially increases the cellular penetration of the drug. Using human tumor cell lines, the activity of S 10036 was compared with that of the more established nitrosoureas BCNU and CCNU. Growth-inhibiting effects were evaluated by the [3H]-thymidine incorporation test. In a panel of 12 human cancer cell lines [melanoma (4), ovary (2), head and neck (3), lung (1), bladder (1), breast (1)], the dose-response curves of S 10036 (0-100 microM) were similar to those obtained with equimolar concentrations of BCNU and CCNU; they indicated a moderately more marked effect for two and an equal effect for six melanoma cell lines with S 10036 as compared with BCNU. Moderate but significant synergistic combinations were obtained when S 10036 (0-80 microM) and CDDP (0-100 microM) or DTIC (250-6,500 microM) were combined in melanoma cell lines. In conclusion, the new nitrosourea S 10036 shows promising activity, particularly against human melanoma cell lines.

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