

عنوان مقاله:

Combination of auraptene and arsenic trioxide induces apoptosis and cellular accumulation in the subG₁ phase in adult T-cell leukemia cells

محل انتشار:

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خلاصه مقاله:

Objective(s): Despite advances in the treatment of adult T-cell leukemia/lymphoma (ATLL), the survival rate of this malignancy remains significantly low. Auraptene (AUR) is a natural coumarin with broad-spectrum anticancer activities. To introduce a more effective therapeutic strategy for ATLL, we investigated the combinatorial effects of AUR and arsenic trioxide (ATO) on MT-2 cells. **Materials and Methods:** The cells were treated with different concentrations of AUR for 24, 48, and 72 hr, and viability was measured by alamarBlue assay. Then, the combination of AUR (20 µg/ml) and ATO (3 µg/ml) was administrated and the cell cycle was analyzed by PI staining followed by flow cytometry

analysis. In addition, the expression of NF- κ B (REL-A), CD $\kappa\kappa$, c-MYC, and BMI-1 was evaluated via qPCR. Results: Assessment of cell viability revealed increased toxicity of AUR and ATO when used in combination. Our findings were confirmed by accumulation of cells in the sub G $_1$ phase of the cell cycle and significant down-regulation of NF- κ B (REL-A), CD $\kappa\kappa$, c-MYC, and BMI-1. Conclusion: Obtained findings suggest that combinatorial use of AUR and ATO could be considered for designing novel chemotherapy regimens for ATLL.

کلمات کلیدی:

Adult T-cell leukemia/-lymphoma (ATLL), Arsenic trioxide (ATO), Auraptene (AUR), chemotherapy, MT-2 cells

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