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# Investigating anticancer effects of melphalan on malignant htlv-1 infected cells

1. Faeze Khodadadi (Mashhad University Of Medical Sciences)
2. Mohammad Hadi Sadeghian (Cancer Molecular Pathology Research Center, Department Of Hematology And Blood Bank, Faculty Of Medicine, Mashhad University Of Medical Sciences, Iran)
3. Houshang Rafatpanah (Inflammation And Inflammatory Diseases Research Center, Faculty Of Medicine, Mashhad University Of Medical Sciences, Mashhad, Iran)
4. Fatemeh B. Rassouli (Cell And Molecular Biotechnology Research Group, Institute Of Biotechnology, Ferdowsi University Of Mashhad, Mashhad, Iran)
5. Mehrdad Iranshahi (Department Of Pharmacognosy And Biotechnology, Biotechnology Research Center, Faculty Of Pharmacy, Mashhad University Of Medical Sciences, Mashhad, Iran)

## Abstract

Adult T cell leukemia/lymphoma is a rare mature CD4 (+) T-cell neoplasm caused by HTLV-1 that is a complex human delta retrovirus. While HTLV-1 infection is generally asymptomatic, 3-5% of infected individuals develop the highly malignant and intractable T-cell neoplasm. In spite of medical advances, long term recovery of this disease has been failed. Melphalan is an alkylating nitrogen mustard that is used as an antineoplastic agent in a number of malignancies. In this study, the anticancer activity of melphalan was investigated on HTLV-1 infected cell line. In this regard, MT-2 cells were treated with increasing concentrations of melphalan for 3 consecutive days. Then, cell viability was evaluated using Alamar Blue 14g<sup>0</sup>% reagent. Obtained results indicated that 20 µg/ml melphalan caused 30% cell death in comparison with relevant control treatment (0.8% DMSO ) after 72 hours. According to current study, melphalan could be considered as a potent anticancer agent in future studies.

**Keywords:** Blood Cancer, Cell and Cancer, Cancer Treatment and Management, Targeted Cancer Therapy, Drugs and Cancer, Chemotherapy

**Corresponding Author:** Mohammad Hadi Sadeghian

(Cancer Molecular Pathology Research Center, Department of Hematology and Blood Bank, Faculty of Medicine, Mashhad University of Medical Sciences, Iran)