

EVALUATION OF *IN VITRO* CYTOTOXIC POTENTIAL OF DIFFERENT CARMUSTINE FORMULATIONS AGAINST U-87 MG HUMAN GLIOBLASTOMA CELL LINE

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ABSTRACT

Glioblastoma (GBM) is a frequent as well as violent type of brain tumor. In this research work, different carmustine formulations were prepared and screened for their cytotoxic activity against U-87 MG glioblastoma and normal human fibroblast L-929 cell lines. The flexible liposomes embedded *in situ* nasal gel exhibited maximum percentage of growth inhibition against U-87 MG glioblastoma cell line, and *in situ* nasal gel exhibited lowest percentage of growth inhibition against U-87 MG glioblastoma cell lines. Flexible liposomes embedded *in situ* nasal gel is observed to be safe and biocompatible against normal human fibroblast L-929 cell line. In cellular uptake study, U-87 MG cell line treated with flexible liposomes embedded *in situ* thermoreversible intranasal gel emitted stronger and higher intensity fluorescence. It seems that the presence of flexible liposomes embedded *in situ* thermoreversible nasal gel inside the tumor cells, and would be the best carmustine delivery approach for the management of GBM.