EFFECTS OF IODODEOXYURIDINE ON TRANSCRIPTION OF MAREK'S DISEASE VIRUS GENES IN LYMPHOBLASTOID CELLS, MDCC-MSB1

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In the presence of iododeoxyuridine (IUdR), Marek's disease virus (MDV) antigens were induced in a lymphoblastoid cell line, MDCC-MSB1, which carries MDV but expresses few MDV antigens, including Meq and VP16 homolog. By quantitative reverse-transcriptase polymerase chain reaction (RT-PCR) analysis, a decrease of Meq gene transcripts was observed with cells that received 6–12 hrs of IUdR treatment. When the cells received the IUdR treatment for longer than 18 hrs, the Meq gene transcripts were increased to 120% of those of non-treated cells at 48hr after the start of treatment. Transcripts of the VP16 homolog gene were also increased to 230% compared to the non-treated control. Quantitative PCR analysis for the viral genome DNA indicated an 80–fold increase of the copy number of the viral genome DNA caused by the IUdR treatment. On the other hand, transcripts of the DNA polymerase gene of MDV remained undetectable after the IUdR treatment, in contrust to abundant transcripts were detected in lytically infected cells. These data suggested that the IUdR treatment enhanced the transcription of restricted genes but did not induce viral replication.