

**The abstract has a maximum of 300 words and must include the following information as the example:**

**Title of the abstract.**

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**Introduction:** Murine Leukemia Virys (MLV) requires the infected cell to divide in order to access the nucleus to integrate. It has been demonstrated that MLV uses the microtubule and actin network to reach the nucleus at early stages of infection. Several studies shown that viruses use the dynein motor protein associated to microtubules for their transport. We have reported that in Dynlrb2, NdeL1 and p50/dynamitin knockdown cells (KD), MLV significantly decreases its infection compared to wild type cells, suggesting that MLV uses dynein to reach the nucleus.

The aim of this work was to determine if the dynein complex subunit Dynlrb2 plays an essential role in the retrograde transport of MLV preintegration complex (PIC).

**Materials and Methods:** An MLV mutant containing the green fluorescent protein (GFP) fused to p12 was used to assess the localization and traffic of MLV PIC in WT and Dynlrb2 KD or overexpressing cells at different times post infection.

**Results:** A significant decrease in the arrival of MLV PIC into the nucleus on Dynlrb2 KD cells compare with non-silenced cells was observed. In addition, a significant increase of MLV PIC nuclear localization was observed 4 hours post infection in cell that overexpressed Dynlrb2. The retrograde traffic of MLV PIC was severely impaired in Dynlrb2 cells compared to control.

**Discussion:** Together, these experiments demonstrate that Dynlrb2 plays an essential role in MLV retrograde transport and arrival to the nucleus.

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