Import of PIC to the Host Nucleus

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Introduction

Reactome is open-source, open access, manually curated and peer-reviewed pathway database. Pathway annotations are authored by expert biologists, in collaboration with Reactome editorial staff and cross-referenced to many bioinformatics databases. A system of evidence tracking ensures that all assertions are backed up by the primary literature. Reactome is used by clinicians, geneticists, genomics researchers, and molecular biologists to interpret the results of high-throughput experimental studies, by bioinformaticians seeking to develop novel algorithms for mining knowledge from genomic studies, and by systems biologists building predictive models of normal and disease variant pathways.

The development of Reactome is supported by grants from the US National Institutes of Health (P41 HG003751), University of Toronto (CFREF Medicine by Design), European Union (EU STRP, EMI-CD), and the European Molecular Biology Laboratory (EBI Industry program).

Literature references


Reactome database release: 78

This document contains 1 reaction (see Table of Contents)
HIV can infect non-dividing cells, implying that the PIC must be able to traverse the nuclear membrane. In contrast, simple retroviruses such as MLV can only infect cells once they have passed through mitosis, potentially because they require breakdown of the nucleus to access chromosomal integration sites. The mechanism of nuclear localization is controversial. A variety of proposals have been made for nuclear localization sequences (NLS) in the PIC, but most of those have now been shown to be dispensible for HIV integration. According to a new idea from Yamashita and Emerman, it may be that the PIC is imported into the nucleus by a default pathway, while MLV PICs are retained in the cytoplasm because capsid protein is stably associated with PICs.

**Literature references**


**Editions**

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
<th>Authors/Editors</th>
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<td>2006-05-19</td>
<td>Authored, Edited</td>
<td>Gopinathroa, G., D'Eustachio, P.</td>
</tr>
<tr>
<td>2006-10-31</td>
<td>Reviewed</td>
<td>Bushman, FD.</td>
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