

HIV-1 molecular clone

Diagram illustrating the HIV-1 genome structure and the RT-PCR strategy for detecting HIV-1 RNA.

The HIV-1 genome structure shows the following regions: *LTR*, *gag*, *pol*, *vif*, *vpr*, *vpu*, *tat*, *rev*, *env*, and *nef*. The *rev* gene is shown as a separate structure, indicating its role in the viral life cycle.

The RT-PCR strategy involves the following steps:

- Transcripts:** The viral RNA is reverse transcribed into cDNA.
- Unspliced:** The cDNA is amplified using primers that target the unspliced viral RNA.
- Spliced:** The cDNA is amplified using primers that target the spliced viral RNA.
- Probe:** A probe is used to detect the amplified cDNA.
- Protected fragments:** The probe binds to the cDNA, forming a protected fragment (U) that is resistant to degradation.

