**Introduction**

- Worldwide 35 million people are HIV-infected
- HIV infection evolved from a deadly to a chronic disease
- Current treatment can suppress HIV but **not offer a cure**
- Condemned to lifelong treatment due to a latent reservoir

**Problem**

- Study HIV latency & explore **new treatment strategies**
- **Primary cell models** for main reservoir of HIV: CD4 T cells
- Focus on **lncRNAs** in HIV latency and cure research

**Goal**

**Methods**

- **Worldwide 35 million** people are HIV-infected
- HIV infection evolved from a deadly to a chronic disease
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**Methods**

- IncRNA discovery via total RNAseq, ribodepleted (4 biological replicates per model, Illumina HiSeq 2500, 30-50M reads per sample)
- Downstream analysis: Differential expression, ddPCR validation, pathway analysis and T cell subset analysis

**Results**

1. **Differential Expression: lncRNAs**
   - Digital PCR validated lncRNAs
     - RP11-347C18.3, RP11-539L10.2, PVT1

2. **Pathway analysis: Guilt-by-association**
   - Pathways (Biocarta)
   - P53 Detailed View
   - Latency therapy

3. **Focus on PVT1**
   - Digital PCR validation
   - Pathways associated
   - CD4 T cell subsets

**Conclusion**

- **IncRNA** contribute to HIV latency
- **IncRNA linked to pathways** for possible therapy
- **PVT1 is prioritized candidate** for further research
- Functional validation with targeted knockdown studies are required