RT-LAMP assay for detecting lentiviruses

January 31, 2017

1 Introduction

Tests for known lentivirus retroviruses with a high viral diversity such as HIV are very specific and could miss divergent HIV strains [1][2]. In [3], a number of studies designing degenerate PCR primers for detecting lentiviruses are reviewed. In [4], PCR primers targetting a conserved region of the pol gene across five different lentivirus sequences were designed. The goal of the study was to look for evidence of a lentivirus in patients with rhematoid arthritis.

2 Design

design constraints balance minimal design/development time, minimal equipment requirements, adequate performance.

2.1 Sample Collection

minimal sample volume, blood drop from lanclet

2.2 Lysis

[5]

2.3 Reaction

References

- [1] I. Bártolo and N. Taveira, HIV-1 Diversity and Its Implications in Diagnosis, Transmission, Disease Progression, and Antiretroviral Therapy. INTECH Open Access Publisher, 2012.
- [2] L. M. Luft, M. J. Gill, and D. L. Church, "Hiv-1 viral diversity and its implications for viral load testing: review of current platforms," *International Journal of Infectious Diseases*, vol. 15, no. 10, pp. e661–e670, 2011.
- [3] C. Voisset, R. A. Weiss, and D. J. Griffiths, "Human rna rumor viruses: the search for novel human retroviruses in chronic disease," *Microbiology and Molecular Biology Reviews*, vol. 72, no. 1, pp. 157–196, 2008.
- [4] F. S. D. Giovine, S. Bailly, J. Bootman, N. Almond, and G. W. Duff, "Absence of lentiviral and human t cell leukemia viral sequences in patients with rheumatoid arthritis," *Arthritis & Rheumatism*, vol. 37, no. 3, pp. 349–358, 1994.
- [5] K. A. Curtis, D. L. Rudolph, and S. M. Owen, "Rapid detection of hiv-1 by reverse-transcription, loop-mediated isothermal amplification (rt-lamp)," *Journal of virological methods*, vol. 151, no. 2, pp. 264–270, 2008.