



# Real-Time Polymerase Chain Reaction Assay for the Diagnosis of Pulmonary Tuberculosis

**Viroj Wiwanitkit, M.D., FRFM**

Department of Public Health Curriculum, Master of Science Unit, Surin Rajabhat University, Surin, Thailand

**To the editor:** The recent report on “Real-time polymerase chain reaction (PCR) assay for the diagnosis of pulmonary tuberculosis” is very interesting<sup>1</sup>. Kim et al.<sup>1</sup> noted that “Real-time PCR from selective bronchoscopic aspirates enhances the diagnostic yield much more when added to sputum examination.” In fact, polymerase chain reaction assay for tuberculosis (TB) is considered new and useful diagnostic test. However, there are some concerns on this assay. First, false-positive of the test can be seen in cases with “treated or old lesion from pulmonary TB<sup>2</sup>.” Second, the low sensitivity of the test can be seen<sup>1-3</sup>. In fact, there are many possible causes of low sensitivity including to type of specimen transfer and duration time, the DNA extraction procedure, DNA amplified process, DNA extraction, and reproducible technique<sup>2</sup>. Finally, the cost effectiveness of the test is the topic for further studied.

## Conflicts of Interest

No potential conflict of interest relevant to this article was reported.

## References

1. Kim SW, Kim SI, Lee SJ, Lee JH, Ryu YJ, Shim SS, et al. The effectiveness of real-time PCR assay, compared with microbiologic results for the diagnosis of pulmonary tuberculosis. *Tuberc Respir Dis* 2015;78:1-7.
2. Kheawon N, Chuang-Ngam S, Mitsoongneun S, Peam-Am J, Visalsawadi J. Sensitivity and specificity of real time polymerase chain reaction (RT-PCR) in bronchial washing for diagnostic pulmonary tuberculosis at Maharat Nakhorn Ratchasima Hospital. *J Med Assoc Thai* 2012;95:1396-403.
3. de Assuncao TM, Batista EL Jr, Deves C, Villela AD, Pagnussatti VE, de Oliveira Dias AC, et al. Real time PCR quantification of viable *Mycobacterium tuberculosis* from sputum samples treated with propidium monoazide. *Tuberculosis (Edinb)* 2014;94:421-7.

**Address for correspondence: Viroj Wiwanitkit, M.D., FRFM**

Department of Public Health Curriculum, Master of Science Unit, Surin Rajabhat University, Surin 33000, Thailand

**Phone:** 66-24132436, **Fax:** 66-24132436

**E-mail:** [vwiroj@yahoo.com](mailto:vwiroj@yahoo.com)

**Received:** Feb. 20, 2015

**Revised:** Mar. 2, 2015

**Accepted:** Mar. 2, 2015

©It is identical to the Creative Commons Attribution Non-Commercial License (<http://creativecommons.org/licenses/by-nc/4.0/>).

Copyright © 2015

The Korean Academy of Tuberculosis and Respiratory Diseases.

All rights reserved.