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## mRNA expression profiles of proinflammatory cytokines between *Mycobacterium tuberculosis* infected and uninfected human tissues

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A lthough the prevalence of tuberculosis (TB) has been continuously decreased in worldwide, TB remains the most important health problem in the Republic of Korea. However, there is lack of biomarkers for developing gold standard latent tuberculosis infection (LTBI) diagnostic assays. In the present study, in order to understand profiles of main TB and LTBI host biomarkers, IFN- $\gamma$ , TNF- $\alpha$ , IL-2, IL-4, IP-10, CXCL11, CCL11, GM-CSF, TNF- $\alpha$ R and IL-2R in human tissues, a total of 52 human FFPE tissues containing lung, lymph node, tendon, colon, appendix, etc. were used. gDNA and total RNA was extracted from all FFPE tissues after then gDNA was used for identification of *Mycobacterium species* with PCR-REBA, and total RNA was used for analyzing cytokine mRNA expressions with real-time RT-PCR TaqMan assay. In conclusion, PCR-REBA was better tool for identifying *Mycobacterium species* in human FFPE tissues with higher sensitivity and specificity than other molecular assays. IFN- $\gamma$ , TNF- $\alpha$ , IP-10, and CXCL11 mRNA expression levels in MTB positive tissues were significantly higher than MTB negatives. Data from the correlation curve analysis shows that the mRNA expression of IFN- $\gamma$  was inversely proportional to that of IP-10, and the mRNA expression patterns of cytokines might be changeable in different MTB infection status, their expressions seem to highly correlate and they can be simultaneously used for diagnosis of LTBI very usefully. Moreover, further study with large number of clinical samples is needed to understand the pathogenesis of MTB.

## **Biography**

Sungbae Park has obtained his Bachelor of Health Science Degree and currently pursuing his Master of Science (Clinical Laboratory Science) from Catholic University of Pusan, South Korea. He has gained his research experience on molecular and immunodiagnostics for infectious diseases and cancer by working at Catholic University of Pusan, South Korea.

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