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## Neutralizing activity of anti-IFN- $\gamma$ autoantibody in patients with non-tuberculosis mycobacteria infection

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Interferon (IFN)- $\gamma$  confers crucial immune surveillance positively for immunomodulation (such as macrophage activation, antigen presentation and T cell differentiation), antimicrobial (such as antiviral replication, microbial killing and MHC induction) and anticancer activity (such as growth inhibition, cytotoxicity and immune priming). In addition to genetic involvement, patients with non-tuberculosis mycobacteria (NTM) infection commonly presenting high levels of anti-IFN- $\gamma$  autoantibody (autoAb) are suffered from microbial infections, currently named adult-onset immunodeficiency, regarding defects in IFN- $\gamma$  immune surveillance. In this study, detection of anti-IFN- $\gamma$  autoAb and characterization of its neutralizing activity were carried out in patients with NTM infection. First, ELISA-based colorimetric assays and immune-blotting were utilized for detecting autoAbs. Antibody-antigen reactivity and epitope clarification showed different patterns among these patients. The next results showed the blockade of IFN- $\gamma$ -activated STAT1 activation and IRF1 transactivation by patient serum. Furthermore, IFN- $\gamma$ -regulated inflammation, chemokine production and cytokine production after T cell activation were also blocked. These results provide potential methods for detecting anti-IFN- $\gamma$  autoAb and for characterizing the blockade effects of autoAbs on IFN- $\gamma$  signaling and bioactivity.

### Biography

Dyah Ika Krisnawati is currently pursuing her PhD and is the Senior Lecturer in Dharma Husada Nursing Academy in East Java Province of Indonesia.

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