

Evaluation of the Interaction Between *Mycobacterium Avium* Paratuberculosis Antigens and Antibodies

Hafezeh Alizadeh¹; Mahdi Babaie*²

1-Department of Biology, Research Branch, Islamic Azad University, Tehran, Iran

2-Department of PPD Production, Razi Vaccine and Serum Research Institute, Karaj, Iran

alizadeh6321@yahoo.com

Background & Objectives: Johne's disease is responsible for devastating losses in worldwide dairy production. The causative agent of this disease is *Mycobacterium avium* subsp. *paratuberculosis* has been found in domestic ruminants and wildlife. Clinical disease in cattle is characterized by weight loss, diarrhea, decreased milk production, and ultimately death. Because of the slow progression of the disease, clinical signs are often not observed until the animal is at least 3 years of age. During the first 2–3 years after the initial infection, host immunity against *M. paratuberculosis* is dominated by a cell-mediated immune response that ultimately leads to the appearance of an intestinal granuloma. The control of paratuberculosis relies on the identification of subclinically and clinically infected animals with high sensitivity and rapid diagnosis but most tests were neither sensitive enough for effective control. In recent years researchers focus on identification a specific antigen of Map to use in diagnosis test and preparation of effective vaccine.

Methods: For identification of MAP antigens, SDS-PAGE was applied. Then we were used rabbit serum that immunized with MAP antigens for evaluated the interaction between antibodies and antigens. For this purpose Ouchterlony test was used.

Results: In ouchterlony test interaction between antigen and antibody were shown by clear precipitation lines.

Conclusion: we shown positive interaction between MAP antigens and rabbit serum antibodies. These results can be used in the design of diagnostic test.

Keywords: *Mycobacterium Avium Paratuberculosis*; Antigen; Antibody