

Characterization of Tuberculoproteins from *Mycobacterium Tuberculosis* AN5 Culture Filtrate Treated with Ammonium Sulfate

Mahdi Babaie¹; Hafezeh Alizadeh*²; Nader Mosavvari³; Mahnaz Karimae²

1- Department of PPD Production, Razi Vaccine and Serum Research Institute, Tehran, Iran

2- Department of Biochemistry, Research Branch, Islamic Azad University, Tehran, Iran

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

alizadeh6321@yahoo.com

Background & Objectives: *Mycobacterium tuberculosis* causes tuberculosis, a common disease among livestock and humans. Tuberculosis is a chronic bacterial disease of both pulmonary and extra pulmonary pretend. Despite the discovery of the disease, vaccines and effective drugs for treatment of tuberculosis is still a serious in all of the worlds. The aim of this study is to identify the protein bands of the bovine tuberculin, to be helpful more in the identification of tuberculin.

Methods: Here we have used SDS-PAGE technique to index the antigenic contents of culture filtrate and bacterial extracts of *M. bovis* AN5 used for preparation of bovine PPD tuberculin. *Mycobacterium bovis* AN5 were cultured in Lowenstein – Jensen medium for 8 weeks. Then Bacteria killed by 3 hours autoclaving 100 ° C and dissolved by Whatman filter paper 1. Tuberculin of bacteria was separated by filter paper from the suspension. Clear liquid volume measurement. Ammonium sulphate (AS) were used to precipitate tuberculoproteins from culture filtrate followed by dissociation of antigenic components through SDS-PAGE.

Results: Five antigenic bands were observed when SDS-PAGE was applied on the culture filtrate treated with AS. Three bands with molecular weight 25, 21, 18 kDa and two bands with molecular weight less than 14 kDa appeared.

Conclusion: Given the benefits of precipitation with ammonium sulfate and because the standard tuberculin is produce by ammonium sulfate precipitation Methods, it is better to produce tuberculin by this Methods for producers are less exposed to risk.

Keywords: *Mycobacterium Tuberculosis*; Tuberculoproteins; Ammonium Sulfate