

## Antibacterial Effect of Lactoferrin on *P.aeruginosa*

Ramisa Sharbafi\*<sup>1</sup>; Fatemeh Moradian<sup>2</sup>; Alireza Rafeiei<sup>1</sup>

1- Molecular and Cell Biology Research Center, Mazandaran University of Medical Science, Sari, Mazandaran, Iran

2- Department of Basic Sciences, Sari Agricultural Sciences and Natural Resources University, Sari, Mazandaran, Iran

sharbafi.ramisa@gmail.com

**Background & Objectives:** Lactoferrin(LF) is an iron-binding glycoprotein involves a divers range of biological activities. Lf is a major component of milk and is present in exocrine secretions such as tears, saliva, bile and neutrophil granules . Lf has more potent antimicrobial activities with various range including both of gram negative and positive bacteria as well as antivirus activities.

**Methods:** In this study, antibacterial activity of Lactoferrin has been scrutinized after isolation and purification from cow's colostrums against pseudomonas aeroginos. Bacteria samples were isolated from scald patients (Shahid Zare Hospital) then microbial activity confirmed by biochemical tests like oxidase, catalase and growth on TSI medium. Four concentration 400, 500, 600, 700 µg/ml of lactoferrin were assayed. Pseudomonas colonies counted and compared with the control (without lactoferrin) as well as *E.coli* (DH5α, JM2163) as positive control was considered.

**Results:** Our results suggest that 400µg/ml concentration of lactoferrin has the least inhibitory effect with 35% growth inhibitory on Pseudomonas and 700 µg/ml concentration of lactoferrin has the highest inhibitory effect with 86%. Therefore lactoferrin can effectively reduce the growth of *Pseudomonas aeroginosa*.

**Conclution:** Our result showed that all of lactoferrin concentrations have more effective inhibitory activity against *Pseudomonas aeroginosa*.

**Keywords:** Lactoferrin; Antimicrobial Activity; *Pseudomonas aeroginosa*