

عنوان مقاله:

Galectin 1 and Superoxide Dismutase are Involved in Wound Healing by Larval Therapy

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خلاصه مقاله:

Galectin-1 and superoxide dismutase are two known molecules in the wound healing process that induce such healing by different mechanisms in the wound site. Larval therapy is one of the methods use by Lucilia sericata fly larvae, nowadays returned to the list of therapeutic methods despite chronic diabetic ulcers and antibiotic resistance of bacteria. In this study, we aimed to evaluate the effect of larvae extract on fibroblast cells to determine its role in the levels of Galectin-1 and superoxide dismutase proteins in fibroblast cells. To determine proteomic changes, 3T3 fibroblast cells were treated with larval extract, 3T3 fibroblast cells were cultured and divided into two groups after appropriate density. The first group was considered as control and the second group was treated with larvae extract at a concentration of 12.5 µg/ml. After 24 hours, the two-dimensional gel electrophoresis method for protein level and real-time PCR for gene expression studies were used. In 2D gel testing, three spots were successfully identified including galectin-1, superoxide dismutase, and glyceraldehyde-3-phosphate dehydrogenase. The expression of these three proteins was significantly increased in the cells treated with larvae extract compared to the control cells. Also, the quantitative expression of these genes was confirmed by real-time PCR. Finally, it was found that the treatment of fibroblast cells with larvae extract increased expression of galectin-1, superoxide dismutase and .glyceraldehyde-3-phosphate dehydrogenase, which their positive effect on wound healing is well known

کلمات کلیدی:

Galectin 1, Superoxide dismutase, Wound healing, Fibroblasts, Lucilia sericata

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