

IN VITRO WOUND HEALING ACTIVITY OF ALPHA-LIPOIC ACID

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Chronic wounds represent a worldwide healthcare and socio-economic problem which significantly affects the patients' quality of life. Healing of chronic wounds is a very complex process and requires constant wound management and treatment with agents that should stimulate wound healing. Alpha-lipoic acid (ALA) is a naturally occurring organosulfur compound with two thiol groups in its structure. It is a very potent antioxidant with other beneficial activities such as anti-inflammatory, anti-ageing and neuroprotective. This study aimed to investigate *in vitro* wound healing activity of ALA and its effect on the proliferation of L929 fibroblasts. Wound healing activity was examined using an *in vitro* 'scratch' assay, while the impact on cell proliferation was assessed using the MTT test. A concentration-dependent effect of ALA on fibroblasts' proliferation was observed. ALA stimulated the wound closure and migration of fibroblasts in used *in vitro* wound healing model, which suggests that ALA can be used as a potent agent in various pharmaceutical formulations for wound management and wound healing.

Acta Medica Medianae 2025;64(2):64–70.

Key words: wound healing, chronic wounds, alpha-lipoic acid, cell proliferation, fibroblasts