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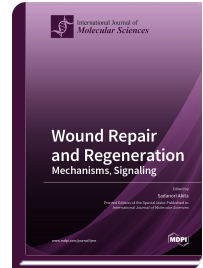
Wound Repair and Regeneration

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Wound healing plays an integral part of cellular and molecular events. Sphingosine-1-phosphate (S1P) is a lipid mediator that promotes angiogenesis and cell proliferation and attracts immune cells. S1P plays a role in skin wound healing by altering the expression of its biogenic enzyme, sphingosine kinase-1 (SphK1). SphK1 overexpression also leads to less scarring through transforming growth factor (TGF)- β 1 and S1P receptor-2 (S1PR2). IFN- γ might be involved in the proliferation and maturation stages of wound healing through the regulation of neutrophilic inflammatory responses in IFN-deficient (KO) mice. Topical recombinant human (rh)-growth hormone (GH) accelerated pressure ulcer (PU) healing in non-obese diabetic/severe combined immunodeficient mice engrafted with a full-thickness human skin graft model. Matrisome properties of scaffolds that direct fibroblasts in idiopathic pulmonary fibrosis and liver regeneration are enhanced by hepatocyte-derived angiogenesis via B-cell CLL/lymphoma/nuclear factor-kappa B signaling. Mechanisms of autologous adipose-derived stem cells in some patients with human immunodeficiency virus (HIV), treated by highly active antiretroviral therapy, are elucidated. The cloning and identification of thymosin (Pa-THYs) from *Periplaneta americana*, the American cockroach, suggest that this molecule could be a potential drug for promoting wound repair. Maresins (MaRs) and macrophages are reviewed, focusing on the potent action of MaRs in the enhancement of M2 macrophage phenotypic profiles to possibly alleviate inflammatory pain.



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