免疫・微生物学教室セミナー

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The non-immune function of Treg in the regulation of cardiovascular repair and regeneration

Abstract: Accumulating evidence has demonstrated that immune cells such as macrophages play an important role in tissue repair and regeneration. After injury, damaged tissues release self-antigens (or so-called neoantigens) that can trigger immune responses essential for removing pathogens or cellular debris in the initial pro-inflammatory phase that is replaced by a subsequent anti-inflammatory phase responsible for tissue repair. On the other hand, impaired immune regulation can contribute to excessive scarring and fibrosis that could be detrimental for the restoration of organ function. T-cells can trigger antigen-specific immune responses. In particular, regulatory T-cells (Treg) have been revealed as the master regulator of the immune system that have both the immune and non-immune regenerative functions in multiple organ systems. Our previous work has also demonstrated their regulation in cardiovascular repair. Lately, we identified the temporal heterogeneity of this subset during aging. In this talk, we will discuss about how T-cells including Treg regulate the regeneration and repair of the blood vessels and heart muscle after injury, respectively. We will also discuss the potential molecular mechanisms underlying T cell-mediated cardiovascular repair and regeneration. Our studies could give clinically relevant insights into the development of Treg-targeted therapy as an alternative treatment option against cardiovascular diseases.

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場所：薬学系総合研究棟 10 階　E10 セミナー室