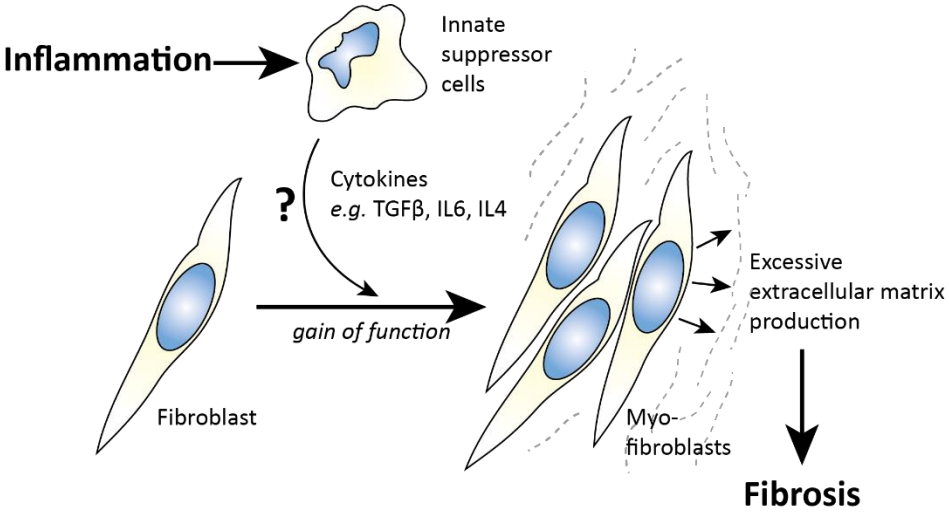
Title: Innately wrong; aberrant function of innate immune suppressor cells as driver of systemic sclerosis

Clinical Relevance: Systemic sclerosis (SSc) is a severe auto-immune disease characterized by excessive fibrosis of skin and internal organs. This fibrosis disrupts organ function, resulting in a high morbidity, increased mortality and a profound loss of quality of life for patients. Currently, no cure is available, resulting in a high unmet medical need.

Background: In skin and organs of systemic sclerosis patients an increased number of myofibroblasts is observed. These cells produce excessive amounts of extracellular matrix resulting in fibrosis. Formation and activity of these myofibroblasts is driven by growth factors and cytokines such as TGFβ, IL-6 and IL-4. An important source of these cytokines are cells of the immune system. Recently, innate suppressor cells have newly been identified as capable of producing large amounts of these pro-fibrotic factors. However, the contribution of this cell type to SSc pathophysiology is yet unknown.



Aim: In this project we aim to establish the contribution of innate immune suppressor cells on development of fibrosis. The objectives include determining the amount of suppressor cells in blood of SSc patients and measuring the influence of these cells on pro-fibrotic activity of (myo)fibroblasts.

For whom: (Highly motivated) Master student BMS/Medical biology/related study

What we offer: You get to work in a state of the art laboratory internationally renowned for its translational and basal research into various rheumatic diseases. In this project you will use a broad spectrum of techniques, including (primary) cell culture & differentiation, myeloid & lymphoid cell isolation from (patient) blood, flow cytometry (FACS), ELISA, histology and immunohistochemistry, Western blot and qPCR. You will be able to gain valuable experience in these techniques, further develop your scientific thinking and independence as researcher, and expand your knowledge on immunology.

Contact

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