Vgll3 causes discoid lupus-like fibrosis in a mouse model of lupus

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Fibrosis is an abnormal wound healing process characterized by collagen deposition, myofibroblast formation, and extracellular matrix remodelling. In cutaneous lupus erythematosus (CLE), fibrosis can contribute to skin thickening, actinic damage, and increase the risk of developing fibrotic complications. In this study, we aimed to investigate the role of Vgll3, a gene involved in fibrosis, in the development of discoid lupus erythematosus (DLE) in a mouse model.

Methods: We used a modified strain of TG mice, where Vgll3 is deleted in the skin. These mice develop a DLE-like phenotype characterized by skin thickening and fibrosis.

Results: Compared to wild-type mice, Vgll3-/- mice showed decreased skin thickness and collagen deposition. Additionally, the immune infiltrate in the skin of Vgll3-/- mice was less inflammatory, with a reduced percentage of CD8 T cells and a higher percentage of regulatory T cells (Tregs). These findings suggest that Vgll3 contributes to the development of fibrosis and inflammation in the DLE-like phenotype in TG mice.

Conclusion: Our results provide evidence that Vgll3 is a potential therapeutic target for the treatment of cutaneous fibrosis in DLE.

020
Induction of hair loss by expanded CD4 T cells from previously affected AA mice

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Alopecia areata (AA) is an autoimmune disease characterized by a loss of scalp hair. The disease is often associated with hair thinning and hair loss in other areas of the body. In this study, we aimed to investigate the role of CD4 T cells in the pathogenesis of AA.

Methods: We used a murine model of AA, where CD4 T cells were expanded in vivo and transferred to recipient mice. The recipients were then treated with a pharmacological agent to induce AA.

Results: We found that expanded CD4 T cells, derived from previously affected AA mice, induced hair loss in recipient mice. The hair loss was characterized by a decrease in hair density and thickness.

Conclusion: Our results suggest that CD4 T cells play a role in the pathogenesis of AA. This finding may have implications for the development of therapeutic strategies targeting CD4 T cells.

021
Multidimensional in situ immune profiling of discoid and subacute cutaneous lupus erythematosus

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Cutaneous lupus erythematosus (CLE) can be subdivided into acute cutaneous (ACLE), subacute cutaneous (SCLE), and chronic cutaneous (CLE) subtypes. In this study, we aimed to investigate the immune infiltrate in CLE subtypes using a multidimensional in situ immune profiling technique.

Methods: We used a technique called spatially sequenced transcriptomic profiling (sST). This technique allows for the simultaneous analysis of cell type and cell state information. We stained skin biopsies from patients with CLE with 27 antibodies and analyzed them using the Hyperion Imaging System.

Results: Our results showed that the immune infiltrate in ACLE and SCLE is different. In ACLE, we found a higher percentage of CD8 T cells and a lower percentage of regulatory T cells (Tregs) compared to SCLE. Additionally, we found that the expression of several cytokines and chemokines was different in the two subtypes.

Conclusion: Our results suggest that the immune infiltrate in CLE subtypes is different and may contribute to the pathogenesis of the disease. This finding may have implications for the development of targeted therapies.

022
UHRF1 downregulation promotes T follicular helper cell development by increasing BCL6

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