



**Abstract 801 Figure 2 Molecular profiles of six CLE patient clusters.** Radar plots showed modified z- scores of relative gene expression module scores in each of the molecularly-defined patient cluster indicated by legend. Cluster 1 had increased interferon (M1.2, M3.4, M5.12) module scores. Clusters 1 and 3 had increased inflammation (M2.2, M4.2, M4.6, M4.13, M5.1, M5.7, and M7.1), neutrophil (M5.15), low density granulocyte (LDG1.1), cell death (M6.13), and apoptosis (M6.6) module scores. Clusters 2, 4, and 5 had elevated T cell (M4.1 and M4.15) module scores.

feron-related proteins, neutrophils, and cell death processes could be driving the inflammatory response in these subgroups. Three different clusters had a predominant T cell signature, which were supported by lymphocyte counts (figure 2).

**Conclusion** Our data support a diverse molecular profile in CLE that further adds to the clinical variations of this skin disease, and may affect disease course and treatment selection. Future studies with a larger and diverse CLE patient cohort are warranted to confirm these findings.

## Cutaneous lupus

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### LYMPHATIC DYSFUNCTION IN LUPUS CONTRIBUTES TO CUTANEOUS PHOTOSENSITIVITY AND LYMPH NODE B CELL RESPONSES

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Patients with systemic lupus erythematosus (SLE) are photosensitive, developing skin inflammation with even ambient ultraviolet radiation (UVR), and this cutaneous

photosensitivity can be associated with UVR-induced flares of systemic disease, with increased autoantibodies and further end organ injury.

Mechanistic insight into the link between skin disease and autoimmunity is limited. Signals from skin are transmitted directly to the immune system via lymphatic vessels, and here we show evidence for potentiation of UVR-induced lymphatic flow dysfunction in SLE patients and murine models. Improving lymphatic flow by manual lymphatic drainage (MLD) or with a transgenic model reduces both cutaneous photosensitivity and lymph node B cell responses. Mechanistically, improved flow restrains B cell responses by activating a fibroblastic reticular cell-monocyte axis. Our results point to a lymphatic flow- lymph node stromal axis as a link between photosensitivity and autoimmune responses and as a therapeutic target in lupus, have implications for understanding skin-immune interactions in other diseases such as skin cancer, and suggest the possibility of MLD as an immediately available, cost- effective adjunctive treatment in lupus and related diseases.

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### PLASMACYTOID DENDRITIC CELLS ARE NOT MAJOR PRODUCERS OF TYPE 1 INTERFERONS IN CUTANEOUS LUPUS

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**Background** Type 1 interferons (IFN-1) are major drivers of disease activity in systemic (SLE) and cutaneous lupus erythematosus (CLE). Plasmacytoid dendritic cells (pDCs) are the major producers of IFN-1 during viral infection. Therefore, pDCs have been hypothesized to be the primary IFN-1