**Supplemental Methods:**

Skin Global Gene Expression Studies:

As 3mm punch skin biopsy was obtained from the arm of study subjects and was put immediately in RNAlater (Qiagen, Valencia, CA) solution and stored -80° C. RNA was prepared by mechanical disruption of the stored samples, followed by isolation of RNA utilizing RNeasy Fibrous Tissue (Qiagen, Valencia, CA) according to manufacturer’s instructions. The RNA quality and yield were assessed by Agilent 2100 Bioanalyzer (Agilent Technologies, CA) and NanoDrop ND-1000 Spectrophotometer (NanoDrop Technologies, Wilmington, DE). All microarray experiments were performed in one batch. Two hundred nanograms of total RNA were amplified and purified using Illumina TotalPrep RNA Amplification Kit (Applied Biosystems/Ambion, Austin, TX). The amplified cDNA was hybridized on Illumina HT-12 arrays and the data were extracted with Illumina Genomestudio software (Illumina Inc, SanDiego, CA). An initial clustering analysis, based on the date of biopsy, RNA extraction, or hybridization did not show any batch effects resulting from technical artifacts.

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| --- | --- |
| **Characteristic** | n=59 |
| Gender (female) | 45 (76.3%) |
| Age at the time of biopsy, mean (SD) in years | 52.4 (13.7) |
| Disease duration, mean (SD) in years | 7.6 (5.2) |
| Diffuse cutaneous involvement | 35 (59.3%) |
| Treated with immunosuppressive agents\* | 14 (23.7%) |
| Interstitial lung disease (FVC<70%) | 23 (39%) |

Supplemental Table 1: Patients with systemic sclerosis examined by global gene expression analysis

\* Patients treated with immunosuppressive agents or corticosteroids (exception prednisone equivalent dose ≤ 5 mg or hydroxychloroquine)

**Supplemental Table 6:** Baseline characteristics of patients in the GENISOS cohort

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| --- | --- |
| **Characteristic** | GENISOS Cohort (n=266) |
| Gender, female | 221 (83%) |
| Age at enrollment, mean (SD) in years | 48.6 (13.5) |
| Ethnicity |  |
| Caucasian | 125 (47%) |
| African American | 54 (20%) |
| Latinos | 77 (29%) |
| Asian | 10 (4%) |
| Disease duration, mean (SD) | 2.5 (1.6) |
| Diffuse cutaneous involvement | 156 (59%) |
| Treatment with immunosuppressive agents \* | 82 (32%) |
| Interstitial lung disease (FVC<70%) | 58 (22%) |

\* Patients treated with immunosuppressive agents or corticosteroids (exception prednisone equivalent dose ≤ 5 mg or hydroxychloroquine)