

Supplementary Table S2. Transcriptomic datasets analysed.

All six datasets were obtained from the NCBI Gene Expression Omnibus and analysed with limma via GEO2R. Sample counts and group composition are those recorded in the GEO series records. A uniform effect-size criterion of $|\log_2 \text{fold change}| \geq 0.585$ (1.5-fold) was applied throughout; the significance criterion differs by dataset because no atopic dermatitis or SLS-ICD gene satisfies both the fold-change criterion and an FDR-adjusted $P < 0.05$, as set out in Supplementary Data S1. “Features in the expression table” is the number of rows in the differential-expression output analysed for that dataset. Up- and downregulated counts are the unique gene symbols with positive and negative $\log_2$ fold change respectively. Gene symbols in the resulting lists reflect the platform annotation available at the time of analysis. For GSE168735, which contains several chemical exposures, the comparison analysed was SLS-exposed versus untreated control skin; this is confirmed by the archived differential-expression output, whose moderated-t total degrees of freedom (19.69) are consistent with 11 versus 8 samples and incompatible with the 36-sample vehicle group.

Condition	GEO accession	Platform	Samples in series	Sample groups in series	Contrast analysed	Significance criterion	Features in the expression table	DEGs (unique symbols)	Upregulated	Downregulated
Psoriasis (PS)	GSE30999	GPL570, Affymetrix HG-U133 Plus 2.0	170	85 lesional, 85 non-lesional	Lesional vs non-lesional (85 vs 85)	Nominal $P < 0.05$	54,675	6,522	3,499	3,023
Atopic dermatitis (AD)	GSE32924	GPL570, Affymetrix HG-U133 Plus 2.0	33	13 lesional, 12 non-lesional, 8 normal	Lesional vs non-lesional (13 vs 12)	Nominal $P < 0.05$	54,675	1,527	731	796
Hidradenitis suppurativa (HS)	GSE148027	GPL570, Affymetrix HG-U133 Plus 2.0	33	18 lesional, 7 non-lesional, 8 healthy	Lesional vs non-lesional (18 vs 7)	FDR-adjusted $P < 0.05$	54,675	6,801	3,509	3,292
Vitiligo (VL)	GSE75819	GPL6884, Illumina HumanWG-6 v3.0	30	15 lesional (depigmented), 15 non-lesional	Lesional vs non-lesional (15 vs 15)	FDR-adjusted $P < 0.05$	20,099	3,040	1,749	1,291
Chronic spontaneous urticaria (CSU)	GSE57178	GPL6244, Affymetrix Human Gene 1.0 ST	18	6 patient lesional, 7 patient non-lesional, 5 normal	Lesional vs non-lesional (6 vs 7)	Nominal $P < 0.05$	33,297	976	804	172
SLS-induced irritant contact dermatitis (SLS-ICD)	GSE168735	GPL29838	103	11 SLS-exposed, 8 untreated, 36 petrolatum vehicle, remainder other chemical exposures	SLS-exposed vs untreated control (11 vs 8)	Nominal $P < 0.05$	21,201	33	16	17