

Supplemental Information

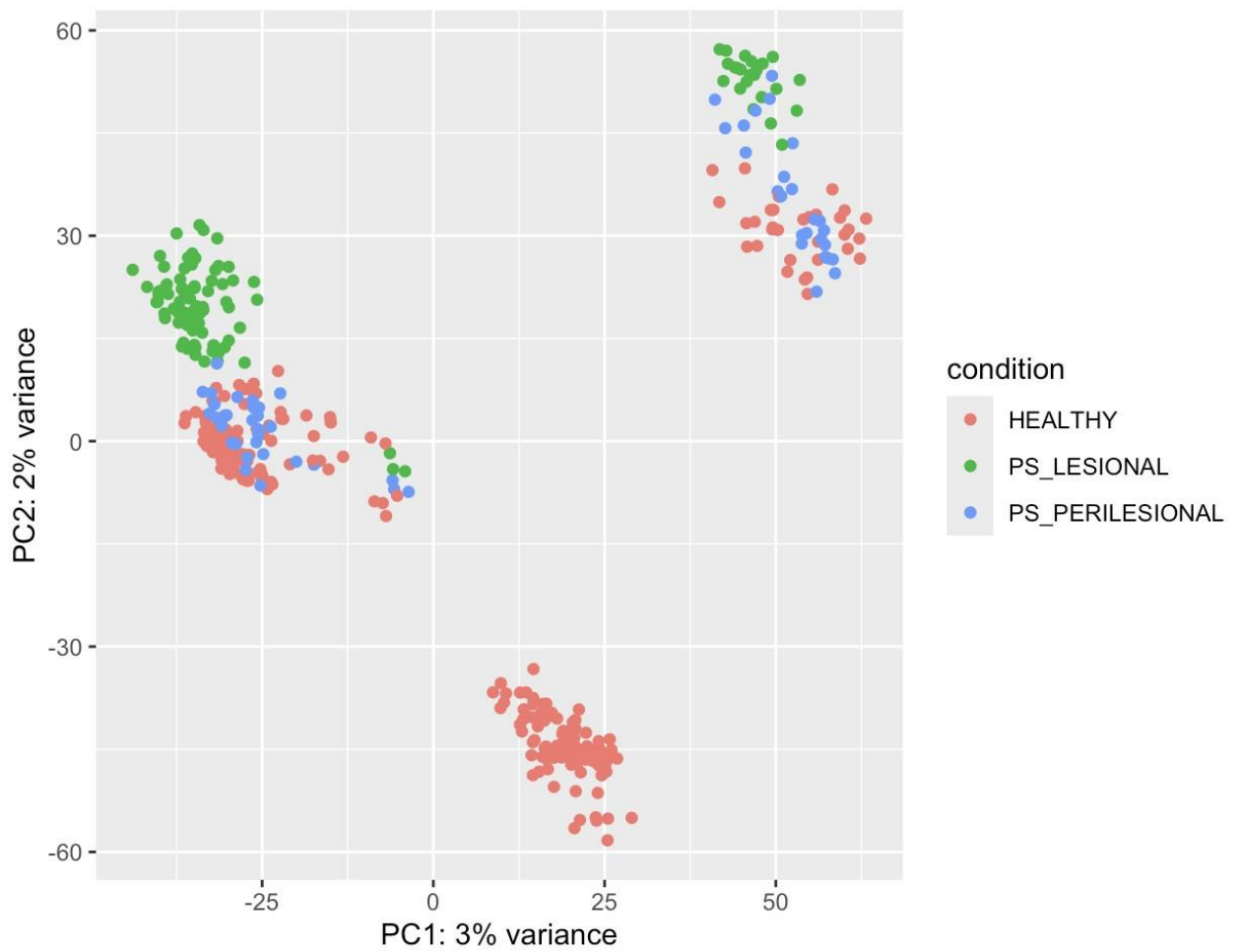


Figure S1: Principal component analysis (PCA) plot for disease condition

Supplemental Information

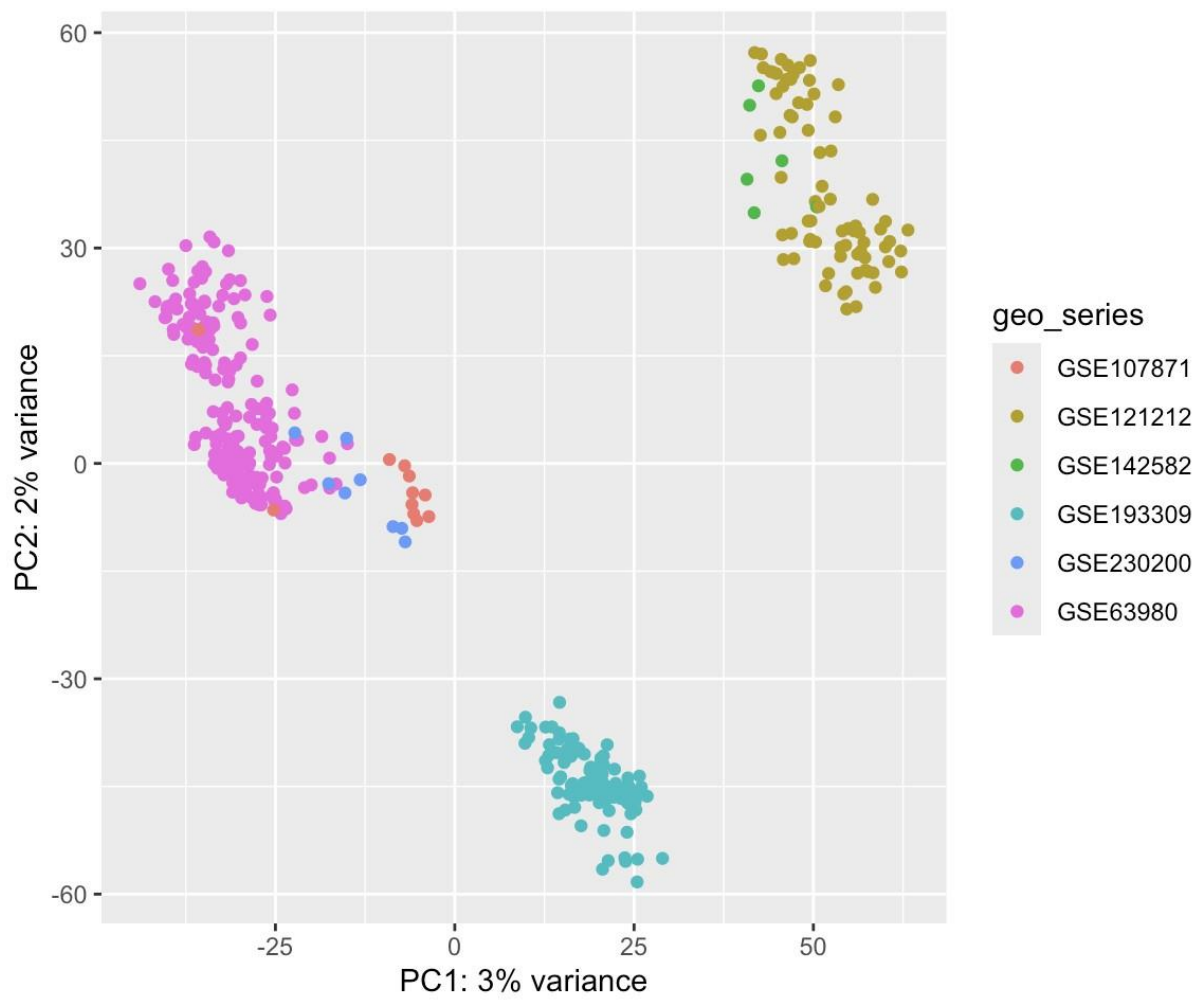


Figure S2: Principal component analysis (PCA) plot for GEO series

Supplemental Information

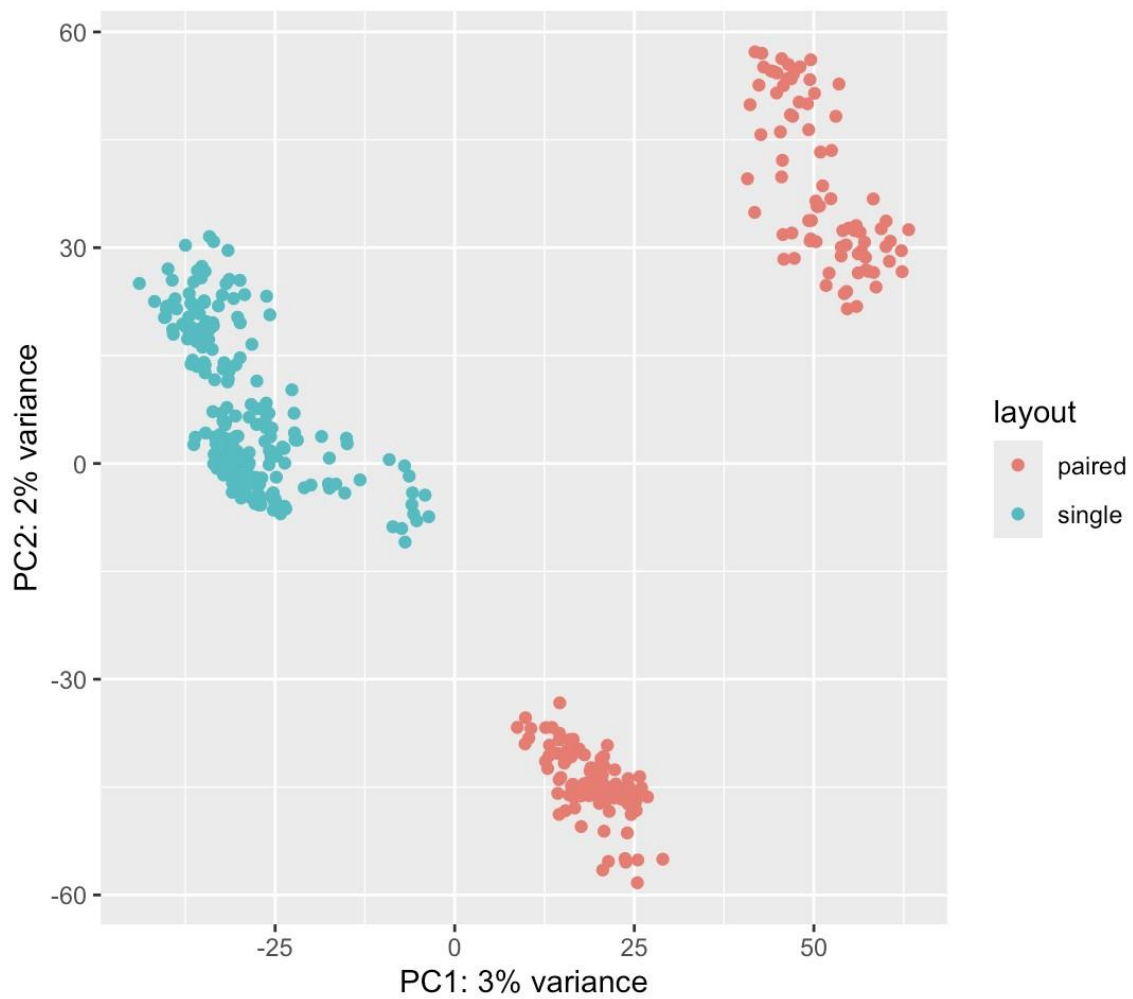


Figure S3: Principal component analysis (PCA) plot for single and paired end sequencing

Supplemental Information

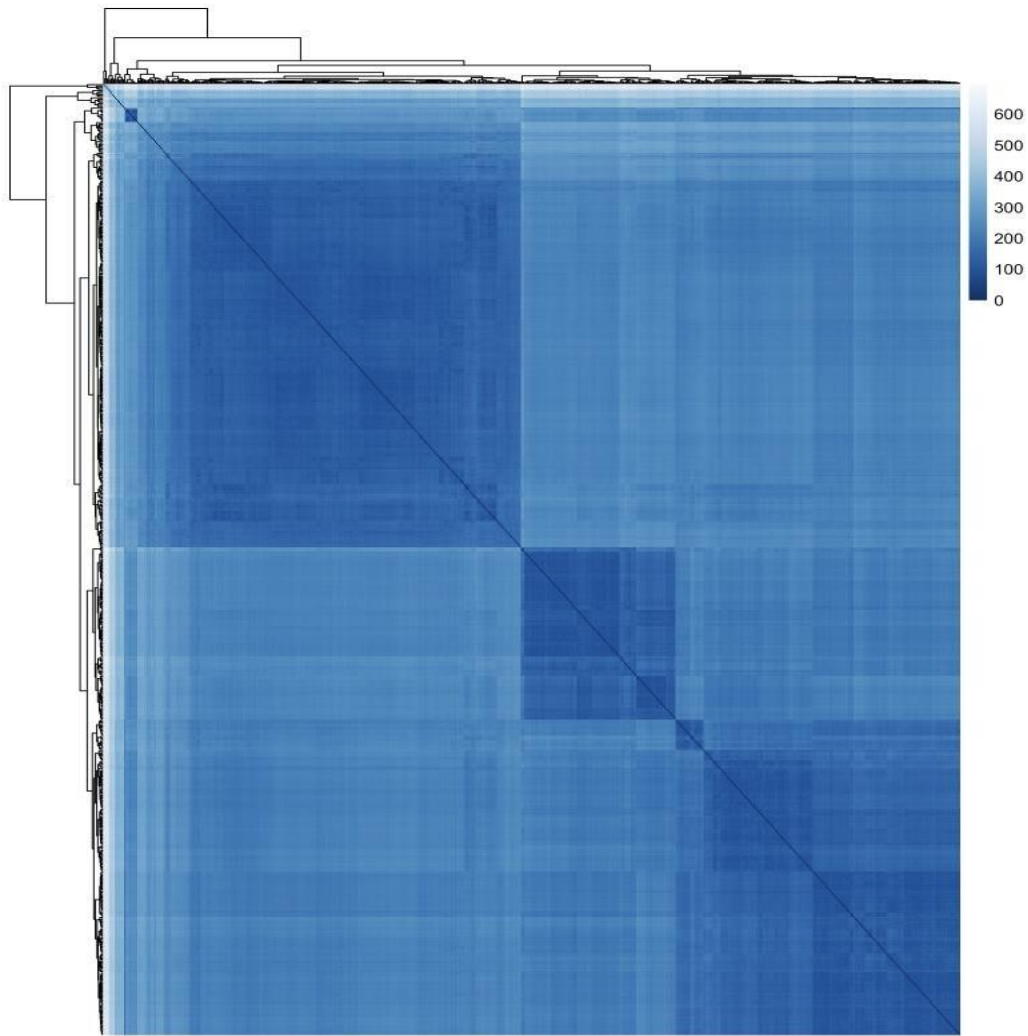


Figure S4: Hierarchical clustering between variance stabilized normalized log count values for all transcripts

Supplemental Information

Table S1: Significant gene of interest fold change in psoriatic lesional skin compared to healthy control

Gene	log2FoldChange	p-value	Differential expression
GPR12	-2.71847	8.19E-39	DOWN
PPARG	-1.05143	9.99E-10	DOWN
TRPV4	-1.07828	8.75E-36	DOWN
HTR1A	-0.86169	1.31E-2	DOWN
PPARA	-0.70541	1.31E-15	DOWN
CNR2/CB2R	0.661387	2.24E-05	UP
TRPA1	1.29784	2.07E-09	UP
TRPV3	1.384079	2.92E-30	UP
PPARD	1.434537	4.96E-61	UP
GPR18	1.636201	9.03E-25	UP
HTR3B	3.130148	1.70E-32	UP
HTR3A	4.081222	1.25E-85	UP
ADORA2A	0.76974	6.63E-04	UP

Supplemental Information

Table S2: Significant gene of interest fold change of psoriatic lesional skin compared to non-lesional skin

Gene	log2FoldChange	p-value	Differential expression
PPARG	-0.59669	2.84E-03	DOWN
TRPV4	-1.09205	4.84E-24	DOWN
GPR12	-2.36025	6.80E-20	DOWN
PPARA	-0.58724	7.51E-08	DOWN
TRPV3	1.177607	4.29E-15	UP
PPARD	1.341717	7.70E-35	UP
GPR18	1.359293	1.27E-11	UP
TRPA1	1.256991	3.51E-06	UP
HTR3B	2.674244	1.43E-16	UP
HTR3A	3.334127	4.18E-38	UP
CNR2/CB2R	0.739257	1.60E-04	UP
ADORA2A	0.815613	2.49E-03	UP

Supplemental Information

Table S3: Significantly upregulated/downregulated cannabinoid receptors and their potential role in psoriasis pathogenesis

Receptor	Lesional to healthy	Lesional to non- lesional	Potential Role in Psoriasis
CNR2	UP	UP	Regulating the inflammatory response ³⁰
GPR12	DOWN	DOWN	Unknown
GPR18	UP	UP	
ADORA2A	UP	UP	Regulating the adaptive and innate immune response ³⁰
PPARG	DOWN	DOWN	Regulating inflammation, lipid metabolism, and
PPARA	DOWN	DOWN	keratinocyte differentiation ¹⁹
PPARD	UP	UP	Epithelial differentiation and wound healing. ²⁷
HTR1A	DOWN	-	Modulating the extracellular matrix ²¹
HTR3A	UP	UP	Proliferation of keratinocytes, epidermal cell turnover, ³²
HTR3B	UP	UP	psychological stress. ³³
TRPV4	DOWN	DOWN	Skin barrier integrity, homeostasis, differentiation, nociception, and pruritis ¹⁷
TRPV3	UP	UP	Pruritis ³⁴ , inflammation ³⁴
TRPA1	UP	UP	Keratinocyte differentiation, proliferation, and skin barrier function ³⁵