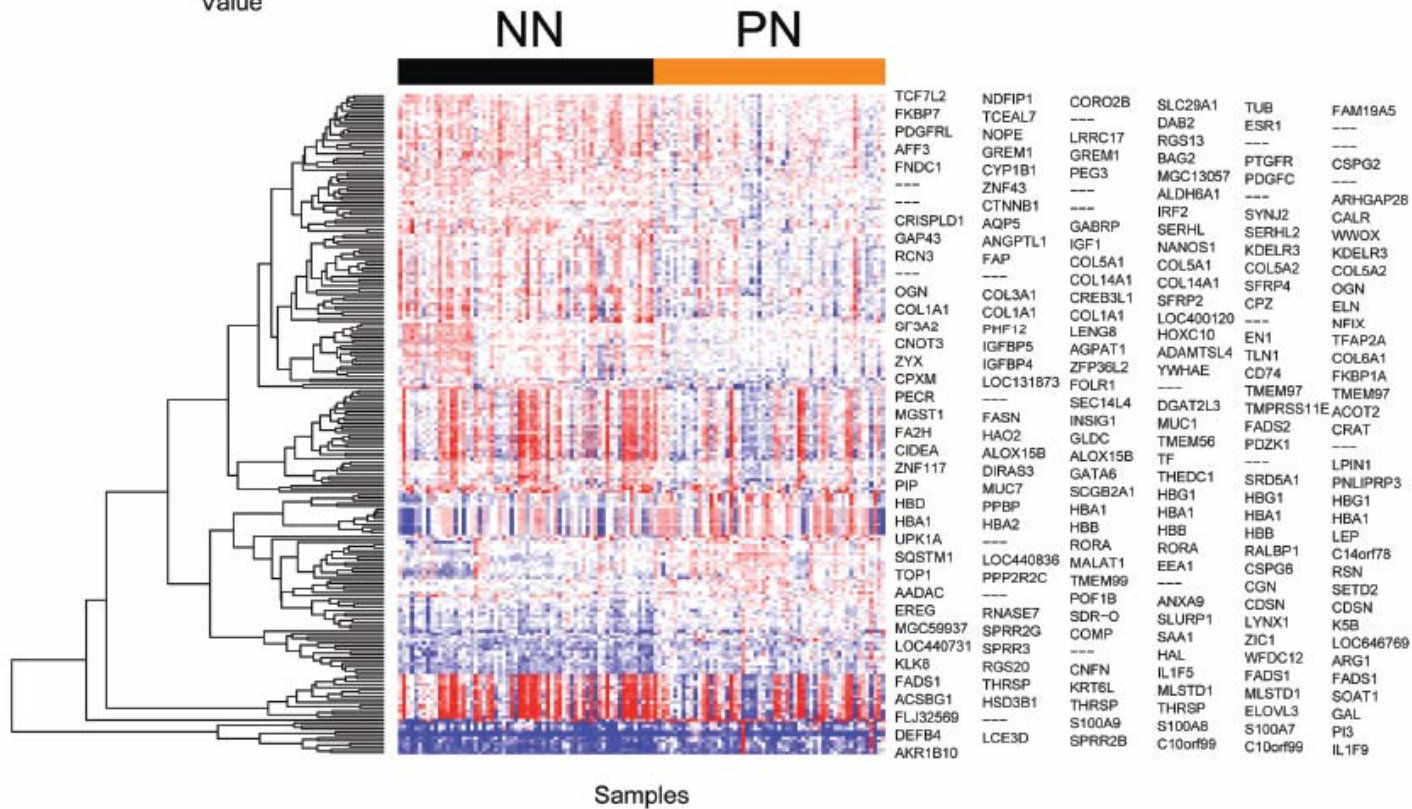
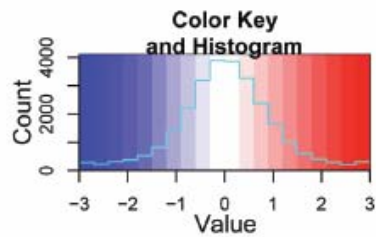
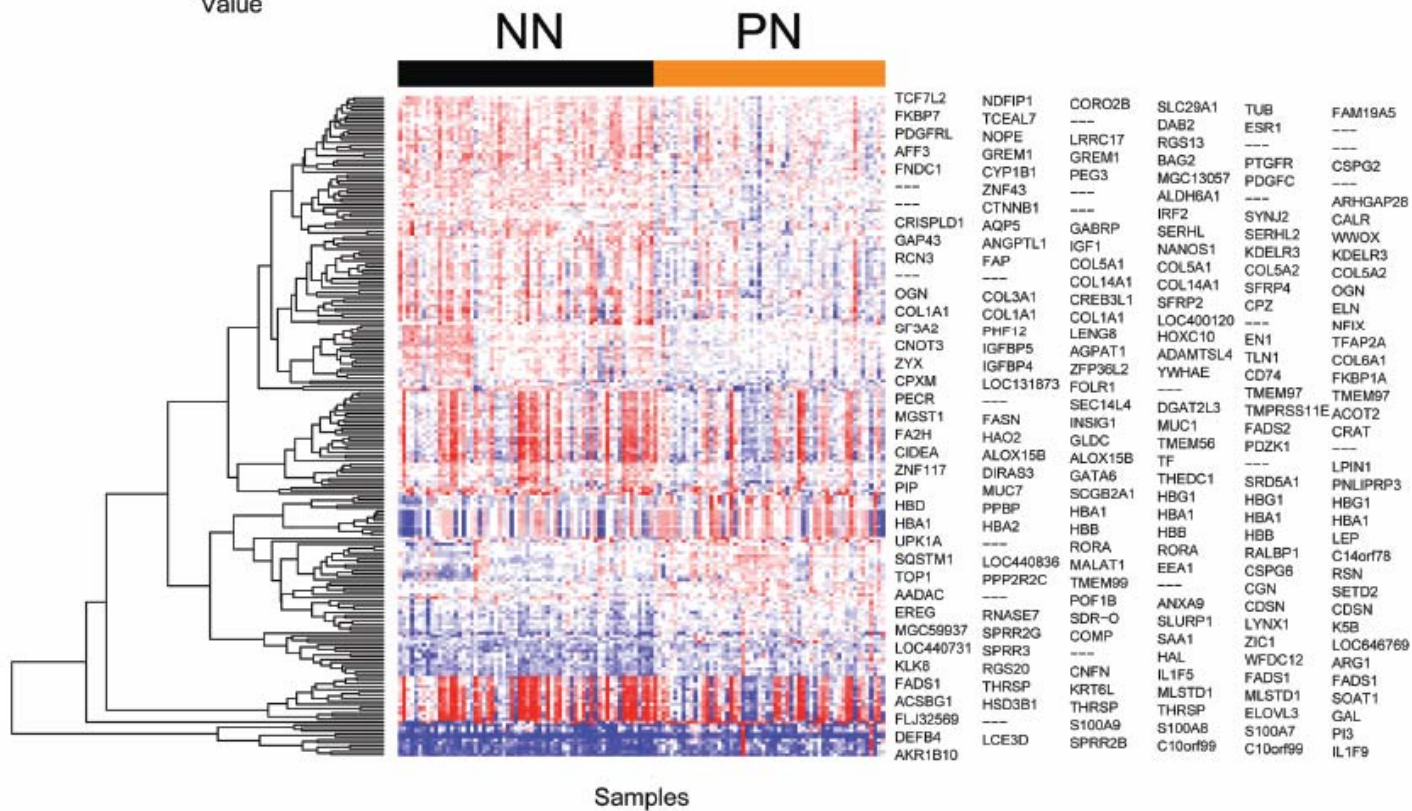
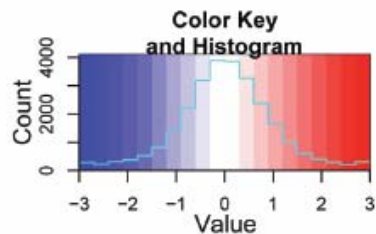


Supplemental Figure 1



Supplemental Figure 2 A

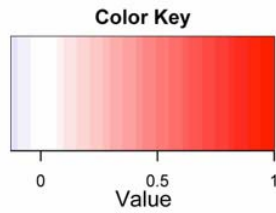


Supplemental Figure 2 B

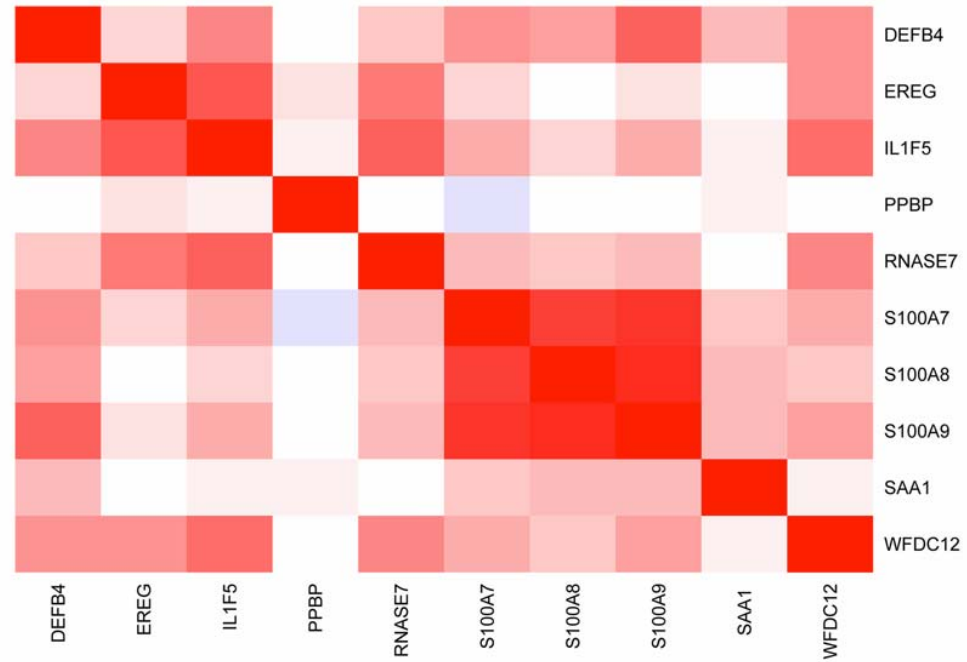
Relevant Functions & Diseases

Lipid Metabolism	Quantity	Of 4-androstene-3,17-dione	Of progesterone	Of beta-estradiol	Of non-esterified fatty acid	Of 1-alpha,25-Dihydroxy Vitamin D3	Of triacylglycerol	Of fatty acid
	Metabolic Process	Metabolic process of lipid	Metabolic process of fatty acid	Metabolic process of eicosanoid	Metabolic process of AA acid			
	Metabolism	Metabolism of lipid	Metabolism of fatty acid	Metabolism of steroid	Metabolism of long chain fatty acid	Metabolism of eicosanoid		
	Modification	Modification of fatty acid	Modification of lipid					
	Secretion	Secretion of testosterone						
	Formation	Formation of testosterone						
	Conversion	Conversion of fatty acid						
	Desaturation	Desaturation of fatty acid						
	Uptake	Uptake of AA acid	Uptake of eicosanoid	Uptake of lipid				
	Biosynthesis	Biosynthesis of lipid						
	Production	Production of testosterone						
	Synthesis	Synthesis of long Chain fatty acid	Synthesis of fatty acid	Synthesis of lipid	Synthesis of cholesterol ester	Synthesis of eicosanoid		
	Accumulation	Accumulation of lipid						
	Moiety Attachment	Moiety attachment of lipid	Moiety attachment of fatty acid					
	Activation	Activation of AA acid	Activation of eicosapentenoic acid					

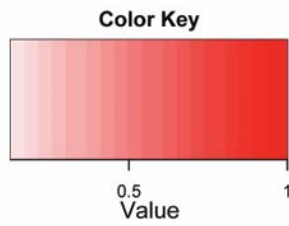
Supplemental Figure 4



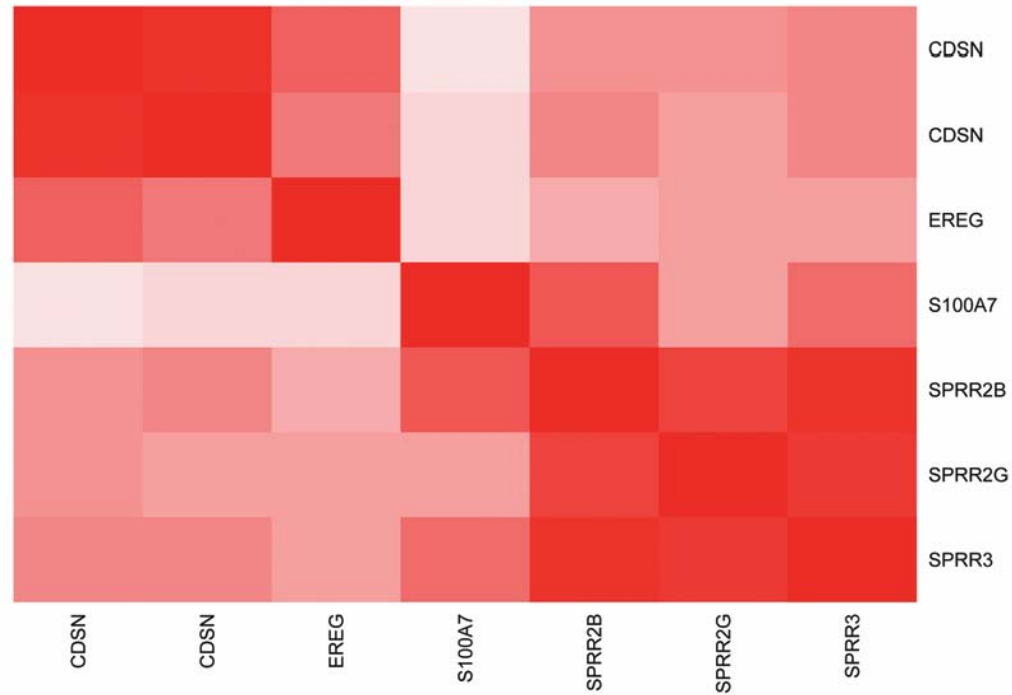
Correlation of genes in defense response



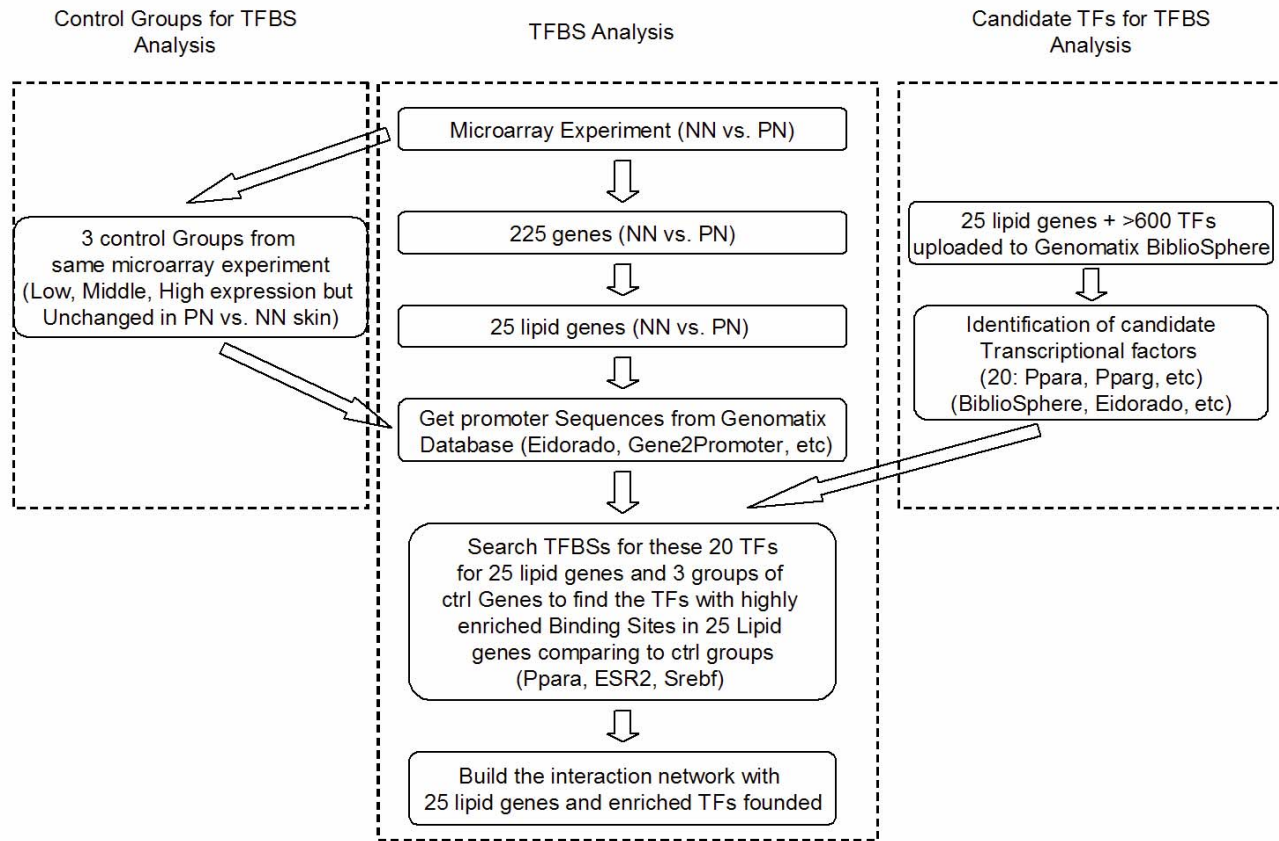
Supplemental Figure 5



Correlation of genes in keratinocyte differentiation



Supplemental Figure 6



Flowchart for Transcriptional Factor Binding Site Analysis Using Genomatix

Supplemental Figure 7

Co-citation and Binding sites

TFs	
PPARA (V\$PERO)	12
PPARG (V\$PERO)	9
TP53 (V\$P53F)	8
MYC (V\$EBOX)	8
EGR1 (V\$EGRF)	7
SP1 (V\$SP1F)	7
ESR1 (V\$EREF)	6
NR1I2 (V\$RXRF)	6
AR (V\$GREF)	6
SREBF1 (V\$SREB)	6
NFKB1 (V\$NFKB)	6
WT1 (V\$EGRF)	5
CREB1 (V\$CREB)	5
ESR2 (V\$EREF)	5
NR3C1 (V\$GREF)	5
NR1I3 (V\$RXRF)	4
STAT3 (V\$STAT)	4
VDR (V\$RXRF)	4
ATF3 (V\$CREB)	4
HIF1A (V\$HIFF)	4
STAT5A (V\$STAT)	3

Supplemental Table 1.

Over-represented transcriptional binding sites in the lipid biosynthesis group.

GO terms for up-regulated genes		
Name	p-value	# of genes
Keratinocytes Differentiation	9.2E-08	6
Keratinization	6.6E-07	5
Epidermis Development	4.7E-06	7
Epidermal Cell Differentiation	6.3E-06	5
Ectoderm Development	7.8E-06	7
Epidermis Morphogenesis	1.1E-05	5
Oxygen Transport	1.3E-05	4
Gas Transport	2.0E-05	4
Tissue Morphogenesis	5.6E-05	5
Multi-Organism Process	5.6E-05	8
Defense Response	8.2E-05	10
Defense Response to Bacterium	1.4E-04	5
Response to External Stimulus	2.2E-04	18
Response to Bacterium	2.4E-04	5
Tissue Development	6.6E-04	7

GO terms for down-regulated genes		
Name	p-value	# of genes
Lipid Metabolic Process	1.0E-09	25
Cellular Lipid Metabolic Process	4.8E-09	22
Monocarboxylic Acid Metabolic Process	5.2E-09	15
Carboxylic Acid Biosynthetic Process	5.7E-09	10
Organic Acid Biosynthetic Process	5.7E-09	10
Fatty Acid Metabolic Process	9.0E-09	13
Fatty Acid Biosynthetic Process	3.3E-08	9
Lipid Biosynthetic Process	1.7E-07	14
Carboxylic Acid Metabolic Process	2.6E-07	19
Organic Acid Metabolic Process	2.8E-07	19
Phosphate Transport	4.7E-05	7
Inorganic Anion Transport	1.2E-03	7
Proximal/Distal Pattern Formation	1.7E-03	3
Anion Transport	2.8E-03	7
Wnt Receptor Signaling Pathway	2.9E-03	6

Supplemental Table 2.

GO terms for up- and down-regulated transcripts.