

Title: *Ovol1/2* loss-induced epidermal defects elicit skin immune activation and alter global metabolism

Dragan et al.

Appendix

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APPENDIX TABLES

Appendix Table S1. Primers for genotyping PCR.

Primer	information	Sequence
Ovol1-null-F1	To identify WT and null Ovol1	CGCGAAGGGGCCACCAAAGA
Ovol1-null-F2		ACACATGAAGTGTCAACGACGT
Ovol1-null-R		AGCAGGGAAGTGAACCTGGTC
CSD-neoF	To identify Ovol1tm1a(KOMP)Wtsi/J	GGGATCTCATGCTGGAGTTCTTCG
CSD-Ovol1-ttR		AAGCCATTAAGCTACATTGCCAGCC
K14Cre-F	K14-Cre	CGG TCG ATG CAA CGA GTG AT
K14Cre-F		CCA CCG TCA GTA CGT GAG AT
Ovol2-J-Null-F	To identify WT and null Ovol2	GCC ATC TCT GCA GCG CCA TTT C
Ovol2-J-Null-R		GCC GGC CTT AAA ACA TCC CAC

Appendix Table S2. Antibodies used in the study.

Antibody	Identifier	Company	Purpose
K14 (rabbit or chicken)	Lee B, et al. Dev Cell. 2014. PMC4153751	Julie Segre; National Institutes of Health	IF
K1 (rabbit or chicken)	Lee B, et al. Dev Cell. 2014. PMC4153751	Julie Segre; National Institutes of Health	IF
Lor (rabbit or chicken)	Lee B, et al. Dev Cell. 2014. PMC4153751	Julie Segre; National Institutes of Health	IF
FLG (rabbit or chicken)	Lee B, et al. Dev Cell. 2014. PMID: PMC4153751	Julie Segre; National Institutes of Health	IF
Ki67- rabbit (clone #D3B5)	9129	Cell Signaling	IF
Anti-Mo CD207 (Langerin)	12-2075-82	Fischer	IF
Anti- β -catenin Antibody (E-5)	sc-7963	Santa Cruz	IF
Zombie NIR™ Fixable Viability Kit	423105	Biolegend	Flow

TruStain fcX™ (anti-mouse CD16/32) Antibody	101320	Biolegend	Flow
Brilliant Violet 605™ anti-mouse CD4 Antibody	100548	Biolegend	Flow
APC anti-mouse CD45 Antibody	103112	Biolegend	Flow
PerCP/Cy5.5 anti-mouse CD3 Antibody	100218	Biolegend	Flow
eBioscience™ Foxp3 / Transcription Factor Staining Buffer Set	00-5523-00	eBioscience	Flow
FOXP3 Monoclonal Antibody (FJK-16s), eFluor 450, eBioscience™	48-5773-82	eBioscience	Flow
PerCP/Cy5.5 anti-mouse CD90.2 (Thy-1.2) Antibody	140322	Biolegend	Flow
FITC anti-mouse CD8a Antibody	100705	Biolegend	Flow
PerCP/Cy5.5 anti-mouse TER-119/Erythroid Cells Antibody	116227	Biolegend	Flow
Alexa Fluor 488–conjugated anti-CD11b	101217	Biolegend	Flow
phycoerythrin-conjugated anti-F4/80	123110	Biolegend	Flow
APC-conjugated anti-CD45 (clone 30-F11)	20-0451	Tonbo Biosciences	Flow
APC-Cy7-conjugated anti-Ly6G (clone 1A8)	25-1276	Tonbo Biosciences	Flow
violetFluor™ 500 Anti-Mouse MHC Class II	85-5321-U025	Tonbo Biosciences	Flow
PE/Dazzle™ 594 anti-mouse I-A/I-E Antibody	107647	Biolegend	Flow
Zombie Violet™ Fixable Viability Kit	423113	Biolegend	Flow
Brilliant Violet 510™ anti-mouse CD45 Antibody	103137	Biolegend	Flow
PE anti-mouse TCR γ/δ Antibody	118108	Biolegend	Flow
PE/Cyanine7 anti-mouse CD326 (Ep-CAM) Antibody	118216	Biolegend	Flow
SYTOX™ Blue Dead Cell Stain, for flow cytometry	S34857	Invitrogen	Flow

Appendix Table S3. Primers for RT-PCR.

Primer	Forward	Reverse
mVim-qPCR	GGAGATGCTCCAGAGAGAGG	ATTCCACTTTCCGTTCAAGG
mOvol1	GTCACAACGACGTCAAGAGG	CTCACACACGTAGAGCTTGG
mOvol2	AGCTTCACGACGCCCAAGGC	GCCGCAGAAGGTGCACAGGT
mGAPDH	CCTGCCAAGTATGATGAC	GGAGTTGCTGTTGAAGTC
mZeb1	CACCAAGTGCCAACCCCATATA	TCTTTTTTGGGTGGCGTGGAGT
mFlot2	CGCTGTGAGGACGTAGAGAC	GCAGCACGACGTTCTTAATGT
mCcdc88a	AGAGGCTGCAACAAGAGAACA	CTCGGAGGGCATCCAATTCA
mDennd5a	CGGACGAGCTGTCGGCATTAT	GCACCATCCCTGGCTTTAGAA
mCcl22	GTGGAAGACAGTATCTGCTGC C	AGGCTTGCGGCAGGATTTTGAG
mUcp1	AGGCTTCCAGTACCATTAGGT	CTGAGTGAGGCAAAGCTGATTT
mAcrp30	TGTTCCCTCTTTATCCTGCCCA	CCAACCTGCACAAGTTCCCTT
mCidea	TGACATTCATGGGATTGCAGAC	GGCCAGTTGTGATGACTAAGA C
mPrdm16	CCACCAGACTTCGAGCTACG	ACACCTCTGTATCCGTCAGCA
mUcp2	TCCCCTGTTGATGTGGTCAA	CAGTGACCTGCGCTGTGGTA
mCpt1b	GTGCAAGCAGCCCGTCTAG	TTGCGGCGATACATGATCA
mPpara	CTGTCGGGATGTCACACAAT	GCCCAGAGATTTGAGGTCTG
mPGC1a	AAACTTGCTAGCGGTCCTCA	TGGCTGGTGCCAGTAAGAG
mPgcl1a	GTAGGCCCCAGGTACGACAGC	GCTCTTGCGGTATTCATCCC
mLipe	GCT GGG CTG TCA AGC ACT GT	GTA ACT GGG TAG GCT GCC AT

APPENDIX FIGURE LEGENDS

Appendix Figure S1. Additional data on gene expression differences between control and iDKO epidermis. Related to Figure 2. (A) Top 11 de-enriched pathways at 25 DPI identified by GSEA Hallmark analysis. (B-E) Enricher GO analysis of the indicated categories and time points for genes up- (B-D) or down-regulated (E) in iDKO epidermis compared with control.

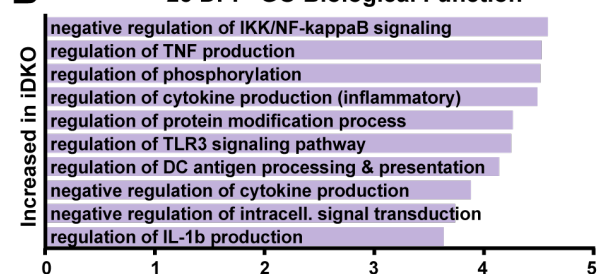
APPENDIX FIGURE

Appendix Figure S1

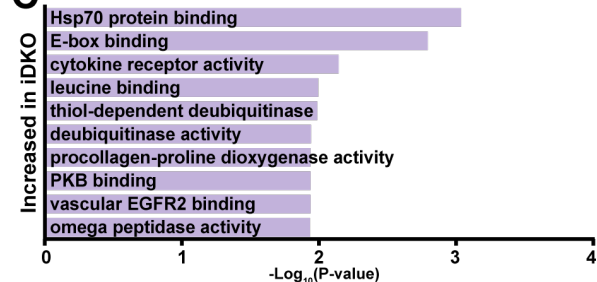
A 25 DPI Hallmark Pathways Index

NAME	SIZE	ES	NES	NOM p-val	FDR q-val	FWER p-val	RANK
HALLMARK_OXIDATIVE_PHOSPHORYLATION	199	-0.564	-1.574	0.000	0.006	0.006	4954
HALLMARK_REACTIVE_OXYGEN_SPECIES_PATHWAY	49	-0.579	-1.517	0.002	0.012	0.023	3576
HALLMARK_DNA_REPAIR	148	-0.532	-1.479	0.000	0.012	0.035	3709
HALLMARK_PEROXISOME	94	-0.534	-1.459	0.001	0.014	0.053	3971
HALLMARK_FATTY_ACID_METABOLISM	149	-0.530	-1.458	0.000	0.011	0.053	3701
HALLMARK_MYC_TARGETS_V1	199	-0.483	-1.347	0.000	0.057	0.300	3574
HALLMARK_XENOBIOTIC_METABOLISM	172	-0.477	-1.325	0.001	0.068	0.396	3972
HALLMARK_INTERFERON_ALPHA_RESPONSE	92	-0.486	-1.321	0.008	0.062	0.404	2782
HALLMARK_ADIPOGENESIS	197	-0.473	-1.319	0.000	0.057	0.421	4720
HALLMARK_PANCREAS_BETA_CELLS	21	-0.538	-1.313	0.072	0.057	0.459	4984
HALLMARK_GLYCOLYSIS	193	-0.448	-1.253	0.004	0.125	0.755	4539

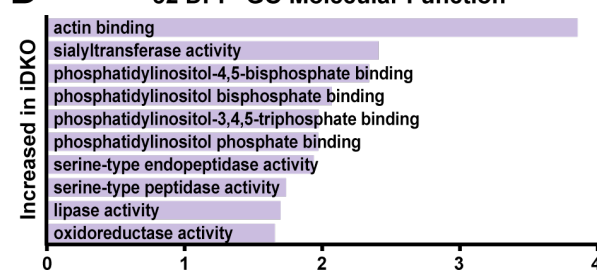
B 25 DPI - GO Biological Function



C 25 DPI - GO Molecular Function



D 52 DPI - GO Molecular Function



E 52 DPI - GO Molecular Function

