

Table S1. The significantly changed skin lipids between *Far2* null mice and wildtype (N=10).

Lipid name	INCHIKEY	Raw p-value	FDR p-value	Fold Change (FC=null/WT)	Log2(FC)
AC 19:0	GWKZIORVZQMVMC-UHFFFAOYNA-O	0.000	0.001	4.2	2.1
AC 20:0	SVLJQBGUITFLI-UHFFFAOYNA-O	0.000	0.001	6.6	2.7
AC 20:2	OLZWDVKTGTGLVC-UTJQPWESNA-O	0.007	0.016	0.6	-0.7
CE 18:2	NAACPBBOTFFYQB-LJAITQKLSA-N	0.000	0.001	3.0	1.6
Cer(d17:1/16:1)	WPFUBVVMOSGKHP-CBLABHCTNA-N	0.001	0.003	3.3	1.7
Cer(d17:1/18:2)	WVGQIXEGMIOFM-QCSXBKGRNA-N	0.000	0.001	2.7	1.4
Cer(d17:1/20:0)	CZKJGFHQZINDHS-NHOGMKOONA-N	0.000	0.000	6.1	2.6
Cer(d17:1/22:0)	NHEGYDMFDPAEY-NWBJSICNA-N	0.000	0.001	6.2	2.6
Cer(d17:1/30:0)	CCLRBUCIGBPXLN-MZBAEZDSNA-N	0.000	0.001	4.8	2.3
Cer(d18:1/15:1)	OAFLTWKJXZGYSZ-MANHSESENA-N	0.003	0.007	3.5	1.8
Cer(d18:1/16:1)	BCZGPAUIAZZGTF-HSCORPAWNA-N	0.005	0.013	3.4	1.8
Cer(d18:1/18:0)	VODZWVMEJITOND-OWWNRXNENA-N	0.005	0.013	2.2	1.1
Cer(d18:1/18:1)	TZXPILCVLWMMNW-DXXMRVLLNA-N	0.000	0.000	9.2	3.2
Cer(d18:1/19:0)	SNMLDULOFHAZRC-NHOGMKOONA-N	0.001	0.002	2.8	1.5
Cer(d18:1/20:0)	XWBWIAOWSABHFI-QOSDPKFLNA-N	0.009	0.020	2.3	1.2
Cer(d18:1/22:0)	KEPOASGDIXEIL-LAPDZXRHNA-N	0.012	0.026	3.2	1.7
Cer(d18:1/22:1)	OINPSEGBLVAKZ-MBXZFYGDNA-N	0.002	0.006	3.7	1.9
Cer(d18:1/26:1)	IBJXLRPUPTQCS-SJWJHEOENA-N	0.015	0.032	2.6	1.4
Cer(d18:1/28:0)	NEUDBTFZYJPMG-OHYVAXEENA-N	0.002	0.004	3.2	1.7
Cer(d18:1/30:0)	YTMJWJKIOCDQT-BOMCYIUANA-N	0.000	0.000	8.2	3.0
Cer(d18:2/16:1)	CJIOFRYYRFSRB-UXKQDCHNA-N	0.001	0.002	7.3	2.9
Cer(d18:2/23:0)	VYMF SKMDQVDKIS-QCVIXQMPNA-N	0.015	0.032	2.5	1.3
Cer(d18:2/26:0)	ZLOXRQZQDQOQB-NBGJCBLSNA-N	0.001	0.002	4.5	2.2
DG(16:0/18:3)	UHPKYXAUVOQHLSVNLQWEDNA-N	0.000	0.001	2.2	1.1
DG(16:1/18:2)	BHGPPCIWDXQOMA-RUGCENDANA-N	0.000	0.001	2.2	1.1
DG(18:0/18:2)	AJMZUFBKADIAC-MLWYCKJNA-N	0.000	0.000	1.8	0.9
DG(18:1/18:2)	BLZVZPYMHLXHG-ROIEFAZNA-N	0.000	0.001	2.9	1.6
DG(18:2/18:3)	PGXBELOFNRPKBC-DYXURTGNA-N	0.000	0.001	2.4	1.3
DG(20:0/18:2)	PAZSROGSZMWHFZ-ZARXLEVNA-N	0.000	0.001	1.8	0.9
DG(22:1/18:2)	ZLOICTBXADUIDP-YZCPKFINA-N	0.000	0.001	8.4	3.1
FA 16:1	PJHOFUXBXJNUAC-KTKRTGZSA-N	0.007	0.016	0.7	-0.5
FA 16:3	HECRUYRDPYOG-LCOXHLGSLA-N	0.023	0.049	0.2	-2.0
FA 17:1	FJMPAYNWWWCODA-KHPPVWFESA-N	0.019	0.040	0.8	-0.3
FA 18:1	UWHZIFQPPBDJPM-FPLPWBLSA-N	0.009	0.020	0.7	-0.5
FA 19:0	ISWECDDZWTFF-UHFFFAOYSA-N	0.000	0.000	3.2	1.7
FA 20:0	VKOBVWXKNCXDE-UHFFFAOYSA-N	0.000	0.000	4.1	2.0
FA 20:5	JAZBEHYOTIENJ-JLNKOSITSA-N	0.000	0.000	1.8	0.9
FA 20:6	PWIBDJLBEKARAO-LJGOLAKSA-N	0.003	0.007	1.5	0.6
FA 21:0	CKDRHZIAZRBW-UHFFFAOYSA-N	0.000	0.000	3.7	1.9
FA 22:0	UKMSJUNONTPOPIO-UHFFFAOYSA-N	0.000	0.000	5.8	2.5
FA 22:1	KJZDZTDNIULBE-VAWYXSNFSA-N	0.000	0.001	1.7	0.8
FA 22:4	IGFLWHIPPADNDL-GFRMADBLSA-N	0.002	0.006	1.8	0.8
FA 22:5	YUFFSWSGQGVEMMI-RCHUDCCISA-N	0.001	0.003	0.6	-0.8
LysoPC 16:0	ASWBKHCZGOVJV-UHFFFAOYNA-N	0.000	0.000	6.6	2.7
LysoPC 18:0	IHNKQIMGVNPMTC-UHFFFAOYNA-N	0.000	0.000	6.6	2.7
LysoPC 18:1	YAMUFLWGFIFCM-SEYXRHONNA-N	0.000	0.001	4.6	2.2
LysoPC 18:2	SPJFYJXNPEZDW-UTJQPWESNA-N	0.000	0.000	5.8	2.5
LysoPC 20:5	PDIGSOAOQXRDU-WMPRHZHDNA-N	0.002	0.006	Indefinite	Indefinite
PC(16:0/20:4)	JAVWFBAAZSHHAD-KKILVCFNA-N	0.021	0.045	2.2	1.1
SM(d14:0/20:0)	BLHKKMGMTNRNHM-UHFFFAOYNA-N	0.007	0.016	2.9	1.5
SM(d14:0/21:1)	LDJGVBPCOLCJN-DORAZIAONA-N	0.000	0.001	2.7	1.4
TG(12:0/18:2/18:2)	MVLRQPTTJFJW-ZHSZNRPNNA-N	0.002	0.004	3.2	1.7
TG(14:0/16:0/18:2)	HUAFGDPJQVZKZ-TXMEPEPYNA-N	0.000	0.000	3.1	1.7
TG(14:0/16:0/18:3)	DPOXSBSJPQZQK-AAPVPQOHNA-N	0.004	0.010	1.7	0.7
TG(14:0/18:1/18:2)	JRCFMQNYMNGHGRD-PUWPDQZNA-N	0.000	0.001	2.5	1.3
TG(14:0/18:1/20:5)	YYZOTXFUVAQSS-MIMRAKPYNA-N	0.001	0.003	2.1	1.1
TG(14:0/18:2/18:2)	IPZYMBZEKSFQULHMLETAINA-N	0.000	0.000	3.0	1.6
TG(14:0/18:2/18:3)	GLRVHWCFJRDSOX-DTIWKLIMNA-N	0.002	0.006	3.3	1.7
TG(15:0/18:1/20:1)	NEKSMCMHOJEPMZ-NJDMNPJTNA-N	0.000	0.000	3.1	1.6
TG(15:0/18:2/18:2)	DRFFNCCYRJRHR-HTUQOFBENA-N	0.000	0.000	4.4	2.1
TG(16:0/16:0/16:1)	IXWOOZEHUDEZ-FVDSYPCUNA-N	0.000	0.000	2.8	1.5
TG(16:0/16:0/18:0)	DOKMNCNZGAXXZ-UHFFFAOYNA-N	0.000	0.001	4.3	2.1
TG(16:0/16:0/18:1)	ZKEWGTVAIGNBK-QOCHGBHMNA-N	0.000	0.000	2.3	1.2
TG(16:0/16:0/18:2)	KELZWJUGNROKO-OCGDUTRDNA-N	0.000	0.000	2.8	1.5
TG(16:0/16:0/20:4)	FTMDHBKIGZUTJX-MFRLLHNRNA-N	0.000	0.000	3.0	1.6
TG(16:0/16:1/17:0)	SORUPHBMMAHYOI-QVTSOHHYNA-N	0.000	0.000	5.1	2.4
TG(16:0/17:0/18:2)	SEIGBQZTRJHNU-OCGDUTRDNA-N	0.000	0.000	4.3	2.1
TG(16:0/18:0/18:0)	SDNYRTVJOFMYIW-UHFFFAOYNA-N	0.000	0.001	27.6	4.8
TG(16:0/18:1/18:1)	NJWLXJXDVKOEOP-IKJQJQYNA-N	0.001	0.003	2.4	1.2
TG(16:0/18:1/18:2)	PFTMZNUFSPJEJR-KDHVLOFNA-N	0.000	0.001	4.3	2.1
TG(16:0/18:2/18:2)	UAWKISGGTGUMP-HTUQOFBENA-N	0.001	0.002	4.7	2.2
TG(16:0/18:2/18:3)	DWJFHJOYVJEBL-IXXGKOVNA-N	0.001	0.002	4.1	2.0
TG(16:0/18:3/20:4)	VDMGICGWNCJKMY-VQTFNCNDTNA-N	0.000	0.001	2.4	1.3
TG(16:1/18:1/18:1)	LUMXEMCKOBNHRP-OQGVXIJNA-N	0.000	0.000	2.7	1.4
TG(16:1/18:2/18:3)	ZNWMQOGSGLJCNF-YOPYQNEPNA-N	0.003	0.007	3.0	1.6
TG(16:2/18:2/18:2)	GOOWHOLGCYSMJZ-RMLMUKSQNA-N	0.000	0.001	2.3	1.2
TG(17:0/18:1/18:2)	JCUUGUUCZELJG-KDHVXLOFNA-N	0.001	0.003	3.7	1.9
TG(17:0/18:2/18:2)	YWUXDKWZLDYON-HTUQOFBENA-N	0.000	0.002	5.6	2.5
TG(18:0/18:1/18:2)	YELCKHLVOPWQJ-RVWQKPPWNA-N	0.002	0.004	2.4	1.3
TG(18:0/18:1/20:0)	LXPIJWPRELJYCD-FLFOWRNMENA-N	0.000	0.001	Indefinite	Indefinite
TG(18:0/20:4/20:4)	KWIGMCRWEINBIR-PUVHJDNNA-N	0.000	0.000	8.8	3.1
TG(18:1/18:1/18:2)	XIKRPLVGVJXBJH-OFACYJBGNA-N	0.001	0.003	4.7	2.2
TG(18:1/18:2/18:2)	POVFMDBGZDJLAN-BHFHPLZNA-N	0.000	0.001	4.2	2.1
TG(18:1/18:2/18:3)	PFXPBVCKXAEFP-OZOFREBONA-N	0.000	0.001	10.1	3.3
TG(18:1/20:1/22:1)	QCCDHUGMFOFIAY-AZLQJPRNA-N	0.000	0.000	5.5	2.5
TG(18:2/18:2/18:2)	YLJZNRHHYWHQC-CRDRGJOSA-N	0.000	0.001	4.8	2.3
TG(18:2/18:2/18:3)	AGCXWXICGWPOGW-FBIPNFWNA-N	0.000	0.001	3.3	1.7
TG(18:2/18:3/18:3)	XCBDYPMQVUIAE-FWPKVRRPNA-N	0.000	0.001	2.7	1.4
WE 39:2		0.007	0.016	0.3	-1.8