A Greasy Player in Alzheimer's Disease

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Supplementary Information

Supplementary Table S1: Quantification of RNA extract

Sample Name	GENEWIZ ID	N.A. Vol. (ul)	RNA Qubit			
			Dilution Factor	Nucleic Acid Conc. (ng/ul)	Actual Nucleic Acid Conc. (ng/ul)	Total Amount (ng)
24KOFa_ct	SCF9443	37	4	124	496	18352
24KOFa_cb	SCF9444	37	4	92.4	369.6	13675.2
24KOFa_md	SCF9445	37	4	160	640	23680
24KOFa_hi	SCF9446	37	4	66.6	266.4	9856.8
24KOFb_ct	SCF9447	37	4	98	392	14504
24KOFb_cb	SCF9448	37	4	172	688	25456
24KOFb_md	SCF9449	37	4	200	800	29600
24KOFb_hi	SCF9450	37	4	56.8	227.2	8406.4
24KOFc_ct	SCF9451	37	4	116	464	17168
24KOFc_cb	SCF9452	37	4	91.4	365.6	13527.2
24KOFc_md	SCF9453	37	4	128	512	18944
24KOFc_hi	SCF9454	37	4	56.6	226.4	8376.8
24KOMa_ct	SCF9455	37	4	85.8	343.2	12698.4
24KOMa_cb	SCF9456	37	4	81.2	324.8	12017.6
24KOMa_md	SCF9457	37	4	85.8	343.2	12698.4
24KOMa_hi	SCF9458	37	1	14	14	518
24KOMb_ct	SCF9459	37	4	106	424	15688
24KOMb_cb	SCF9460	37	4	122	488	18056
24KOMb_md	SCF9461	37	4	118	472	17464
24KOMb_hi	SCF9462	37	4	49.6	198.4	7340.8
24KOMc_ct	SCF9463	37	4	106	424	15688
24KOMc_cb	SCF9464	37	4	126	504	18648
24KOMc_md	SCF9465	37	4	134	536	19832
24KOMc_hi	SCF9466	37	4	100	400	14800
24WTFa_ct	SCF9467	37	4	118	472	17464
24WTFa_cb	SCF9468	37	4	120	480	17760
24WTFa_md	SCF9469	37	4	140	560	20720
24WTFa_hi	SCF9470	37	4	69.8	279.2	10330.4
24WTFb_ct	SCF9471	37	4	106	424	15688
24WTFb_cb	SCF9472	37	4	112	448	16576
24WTFb_md	SCF9473	37	4	128	512	18944
24WTFb_hi	SCF9474	37	4	72.6	290.4	10744.8
24WTFc_ct	SCF9475	37	4	150	600	22200
24WTFc_cb	SCF9476	37	4	116	464	17168
24WTFc_md	SCF9477	37	4	138	552	20424
24WTFc_hi	SCF9478	37	4	56.2	224.8	8317.6

24WTMa_ct	SCF9479	37	4	146	584	21608
24WTMa_cb	SCF9480	37	4	116	464	17168
24WTMa_md	SCF9481	37	4	166	664	24568
24WTMa_hi	SCF9482	37	4	68.2	272.8	10093.6
24WTMb_ct	SCF9483	37	4	166	664	24568
24WTMb_cb	SCF9484	37	4	200	800	29600
24WTMb_md	SCF9485	37	4	156	624	23088
24WTMb_hi	SCF9486	37	4	76	304	11248
24WTMc_ct	SCF9487	37	4	172	688	25456
24WTMc_cb	SCF9488	37	4	128	512	18944
24WTMc_md	SCF9489	37	4	162	648	23976
24WTMc_hi	SCF9490	37	4	53	212	7844
18KOFa_ct	SCF9491	37	4	79	316	11692
18KOFa_cb	SCF9492	37	4	94.6	378.4	14000.8
18KOFa_md	SCF9493	37	4	132	528	19536
18KOFa_hi	SCF9494	37	4	53.6	214.4	7932.8
18KOFb_ct	SCF9495	37	4	106	424	15688
18KOFb_cb	SCF9496	37	4	138	552	20424
18KOFb_md	SCF9497	37	4	150	600	22200
18KOFb_hi	SCF9498	37	4	40.6	162.4	6008.8
18KOFc_ct	SCF9499	37	4	82.8	331.2	12254.4
18KOFc_cb	SCF9500	37	4	66.2	264.8	9797.6
18KOFc_md	SCF9501	37	4	108	432	15984
18KOFc_hi	SCF9502	37	4	47.8	191.2	7074.4
18KOMa_ct	SCF9503	37	4	102	408	15096
18KOMa_cb	SCF9504	37	4	78.2	312.8	11573.6
18KOMa_md	SCF9505	37	4	114	456	16872
18KOMa_hi	SCF9506	37	4	57.6	230.4	8524.8
18KOMb_ct	SCF9507	37	4	95.6	382.4	14148.8
18KOMb_cb	SCF9508	37	4	91.6	366.4	13556.8
18KOMb_md	SCF9509	37	4	130	520	19240
18KOMb_hi	SCF9510	37	4	43.2	172.8	6393.6
18KOMc_ct	SCF9511	37	4	75.6	302.4	11188.8
18KOMc_cb	SCF9512	37	4	72.6	290.4	10744.8
18KOMc_md	SCF9513	37	4	66.6	266.4	9856.8
18KOMc_hi	SCF9514	37	4	47.2	188.8	6985.6
18WTFa_ct	SCF9515	37	4	82.4	329.6	12195.2
18WTFa_cb	SCF9516	37	4	83	332	12284
18WTFa_md	SCF9517	37	4	99.6	398.4	14740.8
18WTFa_hi	SCF9518	37	4	132	528	19536
18WTFb_ct	SCF9519	37	4	76.6	306.4	11336.8
18WTFb_cb	SCF9520	37	4	112	448	16576
18WTFb_md	SCF9521	37	4	71	284	10508
18WTFb_hi	SCF9522	37	4	41.4	165.6	6127.2
18WTFc_ct	SCF9523	37	4	84.2	336.8	12461.6
18WTFc_cb	SCF9524	37	4	168	672	24864
18WTFc_md	SCF9525	37	4	84.8	339.2	12550.4
18WTFc_hi	SCF9526	37	4	118	472	17464
18WTMa_ct	SCF9527	37	4	59.8	239.2	8850.4
18WTMa_cb	SCF9528	37	4	89.8	359.2	13290.4

18WTMa_md	SCF9529	37	4	106	424	15688
18WTMa_hi	SCF9530	37	4	39.4	157.6	5831.2
18WTMb_ct	SCF9531	37	4	110	440	16280
18WTMb_cb	SCF9532	37	4	71.6	286.4	10596.8
18WTMb_md	SCF9533	37	4	128	512	18944
18WTMb_hi	SCF9534	37	4	42.4	169.6	6275.2
18WTMc_ct	SCF9535	37	4	93	372	13764
18WTMc_cb	SCF9536	37	4	97.4	389.6	14415.2
18WTMc_md	SCF9537	37	4	51	204	7548
18WTMc_hi	SCF9538	37	4	47.2	188.8	6985.6
12KOFa_ct	SCF9539	37	4	136	544	20128
12KOFa_cb	SCF9540	37	4	58.4	233.6	8643.2
12KOFa_md	SCF9541	37	4	112	448	16576
12KOFa_hi	SCF9542	37	4	47.4	189.6	7015.2
12KOFb_ct	SCF9543	37	4	114	456	16872
12KOFb_cb	SCF9544	37	4	92.4	369.6	13675.2
12KOFb_md	SCF9545	37	4	136	544	20128
12KOFb_hi	SCF9546	37	4	46.2	184.8	6837.6
12KOFc_ct	SCF9547	37	4	134	536	19832
12KOFc_cb	SCF9548	37	4	102	408	15096
12KOFc_md	SCF9549	37	4	114	456	16872
12KOFc_hi	SCF9550	37	4	35.4	141.6	5239.2
12KOMa_ct	SCF9551	37	4	128	512	18944
12KOMa_cb	SCF9552	37	4	92.4	369.6	13675.2
12KOMa_md	SCF9553	37	4	128	512	18944
12KOMa_hi	SCF9554	37	4	55.8	223.2	8258.4
12KOMb_ct	SCF9555	37	4	116	464	17168
12KOMb_cb	SCF9556	37	4	73.6	294.4	10892.8
12KOMb_md	SCF9557	37	4	86.6	346.4	12816.8
12KOMb_hi	SCF9558	37	4	63.6	254.4	9412.8
12KOMc_ct	SCF9559	37	4	150	600	22200
12KOMc_cb	SCF9560	37	4	110	440	16280
12KOMc_md	SCF9561	37	4	156	624	23088
12KOMc_hi	SCF9562	37	4	62.2	248.8	9205.6
12WTFa_ct	SCF9563	37	4	130	520	19240
12WTFa_cb	SCF9564	37	4	114	456	16872
12WTFa_md	SCF9565	37	4	124	496	18352
12WTFa_hi	SCF9566	37	4	65	260	9620
12WTFb_ct	SCF9567	37	4	88.8	355.2	13142.4
12WTFb_cb	SCF9568	37	4	144	576	21312
12WTFb_md	SCF9569	37	4	162	648	23976
12WTFb_hi	SCF9570	37	4	56.2	224.8	8317.6
12WTFc_ct	SCF9571	37	4	38.6	154.4	5712.8
12WTFc_cb	SCF9572	37	4	93.8	375.2	13882.4
12WTFc_md	SCF9573	37	4	162	648	23976
12WTFc_hi	SCF9574	37	4	51.8	207.2	7666.4
12WTMa_ct	SCF9575	37	4	128	512	18944
12WTMa_cb	SCF9576	37	1	4.4	4.4	162.8
12WTMa_md	SCF9577	37	1	6	6	222
12WTMa_hi	SCF9578	37	4	78.4	313.6	11603.2

12WTMb_ct	SCF9579	37	4	118	472	17464
12WTMb_cb	SCF9580	37	4	92.8	371.2	13734.4
12WTMb_md	SCF9581	37	4	142	568	21016
12WTMb_hi	SCF9582	37	4	66	264	9768
12WTMc_ct	SCF9583	37	4	122	488	18056
12WTMc_cb	SCF9584	37	4	156	624	23088
12WTMc_md	SCF9585	37	4	172	688	25456
12WTMc_hi	SCF9586	37	4	78.6	314.4	11632.8
6KOFa_ct	SCF9587	37	4	120	480	17760
6KOFa_cb	SCF9588	37	4	110	440	16280
6KOFa_md	SCF9589	37	4	134	536	19832
6KOFa_hi	SCF9590	37	4	62.2	248.8	9205.6
6KOFb_ct	SCF9591	37	4	130	520	19240
6KOFb_cb	SCF9592	37	4	116	464	17168
6KOFb_md	SCF9593	37	4	110	440	16280
6KOFb_hi	SCF9594	37	4	54	216	7992
6KOFc_ct	SCF9595	37	4	142	568	21016
6KOFc_cb	SCF9596	37	4	89.2	356.8	13201.6
6KOFc_md	SCF9597	37	4	128	512	18944
6KOFc_hi	SCF9598	37	4	53.6	214.4	7932.8
6KOMa_ct	SCF9599	37	4	148	592	21904
6KOMa_cb	SCF9600	37	4	71.6	286.4	10596.8
6KOMa_md	SCF9601	37	4	102	408	15096
6KOMa_hi	SCF9602	37	4	66.6	266.4	9856.8
6KOMb_ct	SCF9603	37	4	118	472	17464
6KOMb_cb	SCF9604	37	4	136	544	20128
6KOMb_md	SCF9605	37	4	138	552	20424
6KOMb_hi	SCF9606	37	4	77.4	309.6	11455.2
6KOMc_ct	SCF9607	37	4	120	480	17760
6KOMc_cb	SCF9608	37	4	114	456	16872
6KOMc_md	SCF9609	37	4	112	448	16576
6KOMc_hi	SCF9610	37	4	54.6	218.4	8080.8
6WTFa_ct	SCF9611	37	4	158	632	23384
6WTFa_cb	SCF9612	37	4	95.4	381.6	14119.2
6WTFa_md	SCF9613	37	4	146	584	21608
6WTFa_hi	SCF9614	37	4	50.4	201.6	7459.2
6WTFb_ct	SCF9615	37	4	124	496	18352
6WTFb_cb	SCF9616	37	4	126	504	18648
6WTFb_md	SCF9617	37	4	80.8	323.2	11958.4
6WTFb_hi	SCF9618	37	4	52.6	210.4	7784.8
6WTFc_ct	SCF9619	37	4	162	648	23976
6WTFc_cb	SCF9620	37	4	146	584	21608
6WTFc_md	SCF9621	37	4	174	696	25752
6WTFc_hi	SCF9622	37	4	75.6	302.4	11188.8
6WTMa_ct	SCF9623	37	4	150	600	22200
6WTMa_cb	SCF9624	37	4	130	520	19240
6WTMa_md	SCF9625	37	4	152	608	22496
6WTMa_hi	SCF9626	37	4	70.2	280.8	10389.6
6WTMb_ct	SCF9627	37	4	144	576	21312
6WTMb_cb	SCF9628	37	4	104	416	15392

6WTMb_md	SCF9629	37	4	170	680	25160
6WTMb_hi	SCF9630	37	1	48.8	48.8	1805.6
6WTMc_ct	SCF9631	37	4	126	504	18648
6WTMc_cb	SCF9632	37	4	120	480	17760
6WTMc_md	SCF9633	37	4	140	560	20720
6WTMc_hi	SCF9634	37	4	64.8	259.2	9590.4

Supplementary Table S2: Phred Quality Score and corresponding RNA-seq read accuracy.

Phred Quality Score	Probability of incorrect base call	Base call accuracy
10	1 in 10	90%
20	1 in 100	99%
30	1 in 1000	99.9%
40	1 in 10,000	99.99%

Supplementary Table S3: 31 genes showing significantly different expression in the brains of 24-month-old KO mice.

baseMean	log2FoldChange	p value	adjusted p value	gene_name
23308.952	6.05513973	0	0	App
31.9630072	-2.7959192	7.46E-26	5.88E-22	Gm7334
821.372566	-0.3556123	1.25E-07	0.00065837	Kcna4
91.0251269	0.66296371	1.68E-06	0.00554188	Stpg1
235.590153	0.43720297	1.76E-06	0.00554188	Nfil3
1184.47702	0.23809108	2.32E-06	0.00611085	Usp25
46.6553386	-1.1378731	3.49E-06	0.00785424	E230020A03Rik
1033.7394	-0.2457493	6.85E-06	0.01080662	Slc30a1
1111.13037	-0.2414622	6.16E-06	0.01080662	Zfp46
483.058806	-0.2981751	6.19E-06	0.01080662	Agt
529.40603	-0.2926953	8.03E-06	0.01146048	Rfx5
754.414218	0.22832645	9.63E-06	0.01146048	Laptm5
4425.04024	0.13209946	1.02E-05	0.01146048	Lztr1
12931.5249	-0.1149485	9.64E-06	0.01146048	Lsamp
548.201192	0.37193971	1.16E-05	0.01177759	Tmem119
5723.2788	0.14299906	1.19E-05	0.01177759	Srebf2
7326.91235	-0.106412	2.17E-05	0.02014041	Dcaf7
1267.49213	0.2262742	3.09E-05	0.02706024	Itgb5
1813.69593	0.24670839	3.82E-05	0.03170202	P4ha1
488.396799	0.30490063	4.64E-05	0.03527809	Apln
83.2388912	0.51264017	4.97E-05	0.03527809	Gm20605
1993.90259	0.18010322	5.05E-05	0.03527809	Akt2
1017.44969	0.23558568	5.48E-05	0.03527809	Zfpm1
445.435773	0.23116514	5.51E-05	0.03527809	Ehbp1l1
5200.1511	0.11924559	5.59E-05	0.03527809	Ina
4433.81988	0.14546711	6.89E-05	0.04181534	Gm2115
1041.12537	-0.313722	7.24E-05	0.04225764	Dbp
2646.77379	-0.1220145	7.50E-05	0.04225764	Pdcd4
335.625815	0.26596623	8.18E-05	0.04451663	Dubr
72.2786124	0.55703879	9.52E-05	0.0491406	Slc11a1
3096.46495	0.11893067	9.66E-05	0.0491406	Cpt1c

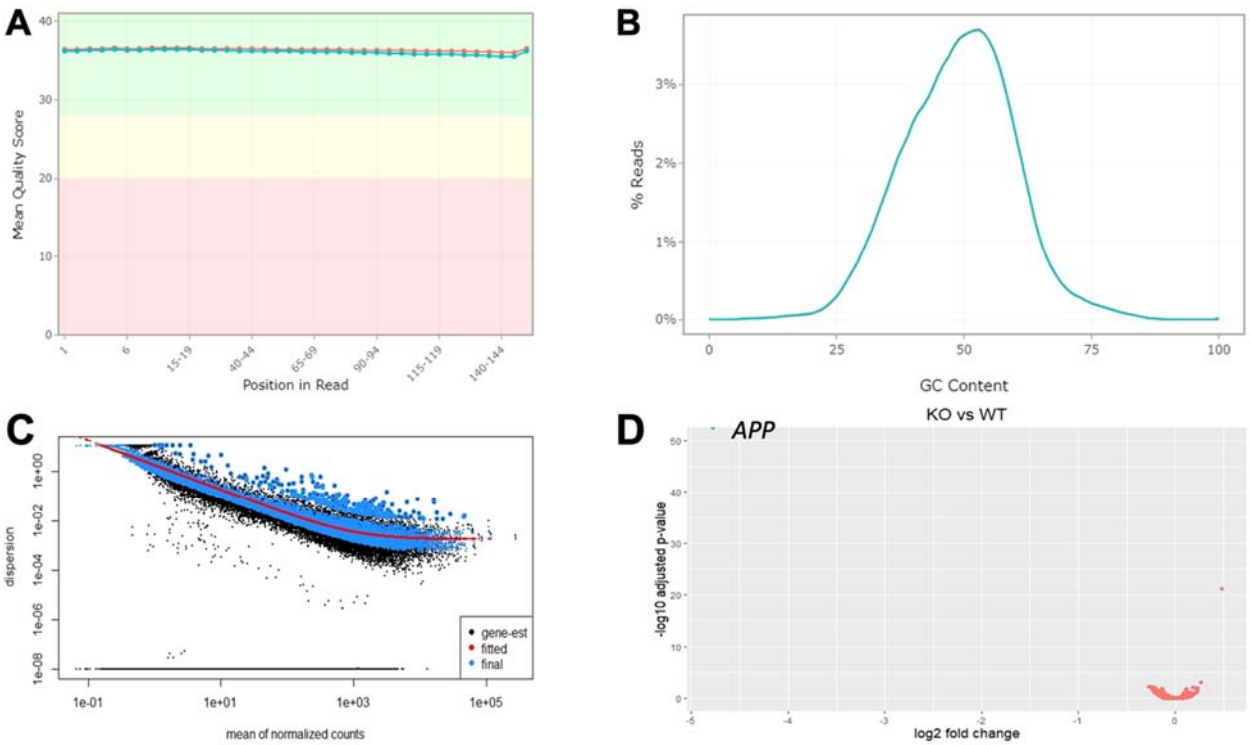

Figure S1. Quality check for RNA-seq results. **A**, Mean Phred Quality Scores of all 192 samples are consistently above 35. **B**, GC content distribution of all reads, whose peak agrees with that of mouse transcriptome. **C**, Count dispersion highly correlates with mean of normalized counts. D, volcano plot of KO vs. WT indicates the absence of APP (up-left blue dot) in KO.