

Supplemental Table 1. Demographics of Post-Mortem Subjects

	Control Group							Major Depression Group										
	Case	Race ²	Age	PMI	pH	RNA ratio	RIN	Case	Race ²	Age	PMI	pH	RNA ratio	RIN	Suicide	Recurrent Episode	PTOD ¹	MOD ³
Male	795	W	68	12.0	6.6	1.2	6.7	598	W	69	5.9	7.3	1.6	8.8	Y	N	D	S
	615	W	62	7.2	6.4	1.4	7.8	600	W	63	9.9	6.7	1.7	7.1	Y	N	N	S
	713	W	58	37.5	7.0	1.6	8.4	698	W	59	13.0	6.8	1.5	9.0	Y	N	D	N
	736	W	54	15.5	6.9	1.6	8.3	783	W	63	11.5	6.5	1.4	8.8	N	Y	N	S
	1031	W	53	23.1	6.8	1.5	8.2	809	W	50	20.0	6.9	1.5	8.5	N	N	D	A
	1086	W	51	24.2	6.8	1.4	8.1	863	W	51	28.3	7.2	1.5	8.4	N	N	N	S
	1122	W	55	15.4	6.7	1.4	7.9	926	W	56	19.0	7.0	1.4	7.3	N	N	D	S
	1047	W	43	12.0	6.9	1.8	9.0	943	W	56	15.4	6.6	1.5	8.2	Y	Y	N	S
	852	W	54	8.0	6.8	1.8	9.1	1001	W	53	7.3	6.6	1.4	7.6	N	N	N	N
	1067	W	49	6.0	6.6	1.4	8.2	1049	W	48	5.4	6.6	1.5	8.4	N	N	D	N
	604	W	39	19.3	7.1	2.1	8.6	1060	W	30	11.1	6.6	1.3	8.3	Y	N	N	N
	634	W	52	16.0	7.0	1.8	8.1	619	W	55	18.8	6.9	1.3	7.9	Y	U	B D	N
	551	W	62	7.2	6.4	1.4	7.8	613	W	59	15.6	7.0	1.9	9.1	Y	Y	N	N
	685	W	57	14.0	6.6	1.5	8.0	505	W	57	12.8	7.1	1.8	8.9	Y	Y	N	S
	789	W	22	20.0	7.0	1.4	7.4	513	W	24	13.1	6.9	1.5	7.0	Y	U	N	S
	857	W	48	16.6	6.7	1.8	8.9	868	W	47	10.5	6.8	1.5	9.3	N	Y	N	S
	1462	W	47	17.2	6.2	2.0	8.5	1013	W	46	16.1	6.3	1.5	8.0	Y	Y	N	N
	1129	W	54	21.0	6.3	1.5	9.0	1161	W	57	15.9	6.6	2.0	7.6	N	Y	D	S
	1374	W	43	21.7	6.6	1.8	7.2	1226	W	44	19.3	6.5	1.7	7.5	N	Y	N	N
	1439	W	56	16.1	6.8	2.1	7.7	1253	W	58	12.5	6.8	1.9	8.1	N	Y	D	N
1444	W	46	22.0	6.3	2.1	8.4	1261	W	46	22.8	6.6	1.9	8.8	N	Y	D	A	
1031	W	53	23.1	6.8	1.5	8.9	1312	W	51	24.6	6.5	1.6	8.1	N	Y	N	A	
1317	W	56	22.9	6.4	1.3	6.9	1320	W	55	24.4	6.5	1.3	7.2	N	Y	N	N	
1214	W	57	16.4	6.2	1.7	7.5	1389	W	61	16.0	6.6	1.9	8.4	N	Y	N	S	
1394	W	45	17.3	6.6	1.9	7.3	10010	W	42	14.3	6.4	1.8	7.6	Y	Y	D	S	
1372	W	37	20.5	6.6	1.6	9.0	10031	W	36	20.0	6.8	2.0	8.9	N	Y	D	A	
Female	731	W	63	10.5	6.2	1.6	8.2	565	W	62	12.5	6.9	2.0	9.2	Y	Y	D	S
	1270	W	73	19.7	6.7	1.4	7.7	860	W	74	23.0	6.2	1.2	8.1	N	Y	B D	N
	1293	W	65	18.5	6.6	1.3	7.0	1272	W	64	12.1	6.6	1.4	7.8	N	Y	B D	N
	1466	B	64	20.0	6.7	2.0	8.8	803	W	65	18.0	7.0	1.9	9.0	N	Y	D	A
	1247	W	58	22.7	6.4	1.3	8.4	934	W	54	17.9	6.2	1.2	8.2	N	Y	D	N
	1282	W	39	24.5	6.8	1.3	7.5	967	W	40	22.2	6.6	1.6	7.4	N	Y	N	N
	575	B	55	11.3	6.8	1.8	9.6	986	W	53	11.9	6.7	1.8	8.7	N	Y	D	N
	1391	W	51	7.8	6.6	1.6	7.1	1041	W	52	10.3	6.5	1.5	8.4	N	Y	B D	A
	686	W	52	22.6	7.1	1.9	8.5	1143	W	49	23.4	6.4	1.8	8.1	N	Y	B D	A
	1034	W	23	8.5	6.1	2.0	7.8	1157	W	26	13.4	6.4	1.5	7.8	Y	Y	D	S
	567	W	46	15.0	6.8	2.3	8.9	1190	W	47	22.3	6.6	1.6	8.0	Y	Y	N	S
	546	W	37	23.5	6.7	2.0	8.6	1221	B	28	24.8	6.6	1.8	7.2	N	Y	N	N
	1092	B	40	16.6	6.8	1.7	8.0	1249	W	40	11.2	6.5	2.0	9.0	N	Y	B D	A
	1403	W	45	12.3	6.7	1.8	8.2	1254	W	39	12.8	6.4	1.9	9.0	Y	Y	D	S
	1318	W	58	18.8	6.7	2.0	7.4	1271	W	50	18.6	6.4	1.8	8.6	N	Y	D	A
	1196	W	36	14.5	6.4	1.8	8.2	1408	W	37	15.5	6.6	1.6	7.0	N	Y	B D	A
	568	W	60	9.5	6.9	1.9	8.7	564	W	56	16.8	7.0	1.9	9.2	Y	N	B D	S
	10013	W	16	9.3	6.7	1.8	9.0	666	W	16	10.0	7.3	2.0	9.4	N	N	D	A
	840	W	41	15.4	6.8	2.0	9.1	1202	W	39	11.2	6.4	1.8	8.0	N	Y	D	N
	1280	W	50	23.5	6.7	1.3	7.7	1289	W	46	25.0	6.3	1.4	7.3	N	N	U	N
1099	W	24	9.1	6.5	1.9	8.6	1315	W	28	12.4	7.0	1.5	7.9	Y	N	N	S	
627	B	43	14.1	7.1	1.0	7.0	1332	W	46	17.5	6.7	1.6	8.9	N	Y	B D	N	
818	W	67	24.0	7.1	1.5	8.4	1356	W	60	20.6	6.1	1.8	8.5	N	Y	D	A	
1081	W	57	14.9	6.8	1.8	9.0	1360	W	59	18.1	6.4	1.4	7.6	Y	N	D	S	
1355	W	74	24.9	6.6	1.9	7.0	10028	W	72	23.1	6.7	1.4	7.0	Y	N	N	S	
	Mean		50	16.9	6.7	1.7	8.1	Mean		50	16.2	6.7	1.6	8.2				
	SEM		2	0.9	0.0	0.0	0.1	SEM		2	0.8	0.0	0.0	0.1				

¹Psychotropic Medications at Time of Death (D is antidepressant, B is benzodiazepine, N is no, U is unknown)

²Race: W = Caucasian American B = African American

³cause of death: S = Suicide A = Accidental N = natural

Supplemental Table 2. Cofactor Analysis in Post Mortem Subjects

		Sex	Age	PMI ¹	pH	RNA ratio	RIN ²	Suicide	ATOD ³
BDNF-IX	All	.494	.054	.207	.620	.022	.265	.157	0.611
	Male		.279	.822	.827	.532	.844	.568	0.588
	female		.118	.098	.382	.012	.096	.161	0.664
TrkB-F	All	.167	.480	.141	.304	.066	.529	.906	0.804
	Male		.059	.203	.061	.084	.501	.743	0.944
	female		.099	.364	.911	.375	.808	.940	0.348
CORT	All	.084	.038	.592	.889	.150	.277	.449	0.244
	Male		.005	.209	.500	.078	.628	.733	0.313
	female		.390	.325	.464	.527	.165	.189	0.728
SST	All	.016	.010	.488	.069	.925	.997	.005	0.399
	Male		.049	.962	.851	.813	.394	.170	0.109
	female		.191	.312	.042	.622	.510	.012	0.560
VGF	All	.032	.672	.525	.708	.534	.794	.654	0.537
	Male		.697	.513	.080	.193	.910	.450	0.131
	female		.332	.836	.215	.625	.624	.830	0.677
SNAP25	All	.302	.860	.092	.618	.127	.924	.359	0.110
	Male		.084	.129	.248	.014	.990	.268	0.211
	female		.086	.453	.713	.847	.990	.307	0.025
NPY	All	.010	.199	.762	.006	.718	.402	.420	0.375
	Male		.002	.978	.101	.543	.397	.863	0.546
	female		.691	.618	.041	.624	.546	.081	0.993
TAC1	All	1.27E-04	.222	.985	.078	.170	.210	.225	0.506
	Male		.001	.914	.378	.531	.563	.703	0.629
	female		.913	.954	.245	.015	.079	.263	0.933
RGS4	All	.602	.677	.550	.326	.002	.595	.828	0.610
	Male		.186	.685	.028	.111	.910	.453	0.454
	female		.843	.657	.802	.014	.613	.860	0.413
GAD1	All	.121	.073	.187	.364	.019	.270	.998	0.551
	Male		.016	.122	.114	.013	.772	.389	0.812
	female		.702	.948	.605	.487	.221	.110	0.985
GAD2	All	.609	.732	.551	.413	.012	.112	.230	0.325
	Male		.491	.377	.375	.162	.181	.554	0.350
	female		.886	.792	.592	.046	.273	.196	0.843
PVALB	All	.004	.124	.008	.742	.001	.775	.275	0.883
	Male		.001	.043	.092	.001	.555	.170	0.745
	female		.588	.088	.138	.157	.989	.707	0.280
SLC6A1	All	.013	.010	.348	.004	.739	.940	.668	0.287
	Male		.314	.532	1.7E-04	.327	.729	.955	0.829
	female		.001	.424	.252	.380	.954	.455	0.339
CALB2	All	.589	.591	.818	.576	.592	.713	.799	0.776
	Male		.190	.479	.866	.286	.974	.685	0.148
	female		.888	.292	.396	.135	.663	.671	0.316
GABRA1	All	.006	.157	.226	.527	.065	.363	.910	0.488
	Male		.009	.503	.698	.006	.081	.889	0.583
	female		.808	.299	.394	.760	.879	.969	0.081
BDNF ELISA	All	3.3E-04	.695	.007	.064	.582	.046	.521	0.069
	Male		.952	.007	.028	.263	.163	.250	0.126
	female		.260	.534	.766	.190	.054	.351	0.755
¹ Post Mortem interval (hours)									
² RNA Integrity Number									
³ antidepressants at time of death									
Grey highlighted p < 0.05 uncorrected									
Bold are included in ANCOVA modeling after Bonferonni-Holm Correction as Cofactors									

Supplemental Table 3. Suicide Effect on BDNF and BDNF-Dependent Gene Expression.

Changes in suicide and non-suicide MDD subjects for genes with significant MDD effects are shown below. Highlighted in light grey are statistically significant $p < 0.05$. Dark grey indicates significance after correction for multiple testing.

	All		MDD & Suicide		MDD not Suicide	
	Alr	<i>p value</i>	Alr	<i>p value</i>	Alr	<i>p value</i>
TrkB	-0.52	0.003	-0.51	0.039	-0.52	0.015
CORT	-0.58	1.69E-05	-0.54	0.002	-0.68	2.63E-06
VGF	-0.63	0.001	-0.69	0.007	-0.58	0.010
SST	-0.59	0.001	-0.04	0.861	-0.83	0.005
TAC1	-0.42	0.016	-0.26	0.285	-0.55	0.008
NPY	-0.66	1.01E-04	-0.53	0.015	-0.72	4.25E-05
SNAP25	-0.69	4.53E-04	-0.82	0.008	-0.65	0.001
GAD2 (GAD65)	-0.48	2.00E-03	-0.37	0.116	-0.54	0.001
GAD1 (GAD67)	-0.41	1.00E-03	-0.43	0.019	-0.40	0.003
PVALB (PV)	-0.58	0.005	-0.86	0.004	-0.42	0.038