

Acute Inflammatory Response Following Increased Blood-Brain Barrier Permeability Induced by Focused Ultrasound is Dependent on Microbubble Dose

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Supplementary Material

Supplementary Table 1: Log2 fold change in gene expression relative to control region 6 hrs post-FUS and corresponding repeated measures, one-way ANOVA p-values

Gene Names	Log2 Fold Change vs Control Region			ANOVA P-Value
	Scheme 1	Scheme 2	Scheme 3	
Agt	-0.85	0.48	-0.16	0.648
Akt1	-0.02	0.32	-0.08	0.53
Atf1	0.16	1	0.62	0.388
Atf2	1.05	1.32	1.15	0.397
Bcl10	0.12	0.86	0.59	0.21
Bcl2a1	0.54	2.42	1.4	0.105
Bcl2l1	0.3	0.63	0.3	0.776
Bcl3	-0.1	1.77	1.78	0.012
Birc3	0.82	3.82	3.65	0
Card10	-0.78	0.29	-0.81	0.012
Card11	-0.37	0.34	-0.23	0.3
Casp1	0.16	1.22	0.75	0.703
Casp8	-0.32	0.8	0.42	0.3
Ccl2	1.94	5.73	5.44	0.014
Ccl5	-0.1	2	1.77	0.166
Cd40	0.29	1.87	1.72	0.026
Cflar	0.3	0.9	0.63	0.089
Chuk	0.1	0.66	0.33	0.739
Crebbp	0.21	0.32	0.33	0.45
Csf1	-0.1	1.3	0.76	0.155
Csf2	-0.46	0.53	-0.49	0.275
Csf3	-0.46	1.29	-0.49	0.275
Egfr	-0.34	0.51	0.02	0.355
Egr1	1.26	1.32	0.81	0.394
Eif2ak2	0.08	0.46	0.3	0.939
F2r	0.16	0.61	0.07	0.607
Fadd	0.12	0.64	0.27	0.899
Faslg	0.04	0.76	0.37	0.703
Fos	0.74	2.35	2.16	0.041
Hmox1	0.09	2.51	1.54	0.169
Icam1	0.66	2.64	2.15	0.017

Ifna1	-0.45	0.08	-0.46	0.308
Ifng	-0.46	0.08	-0.49	0.308
Ikbkb	0.11	0.61	0.21	0.896
Ikbke	0.03	0.12	-0.12	0.925
Ikbkg	0.04	0.6	0.19	0.97
Il10	-0.46	0.37	-0.49	0.234
Il1a	-0.42	1.98	0.77	0.447
Il1b	0.63	4.36	3.53	0.024
Il1r1	-0.47	0.69	0.04	0.503
Irak1	-0.02	0.38	0.06	0.741
Irak2	0.23	1.17	0.66	0.205
Irak4	-0.1	0.34	-0.09	0.944
Irf1	0.32	1.78	1.62	0.001
Jun	-0.1	0.74	0.7	0.734
LOC687813	-1.24	0.22	-0.83	0.172
Lta	0.02	0.34	-0.48	0.435
Ltbr	0.12	1.11	0.87	0.335
Map2k3	0.97	2.14	1.76	0.16
Map3k1	0.01	0.99	0.5	0.445
Mapk3	-0.16	0.33	0.26	0.576
Myd88	0.02	0.8	0.41	0.296
Nfkb1	0.18	1.01	0.75	0.123
Nfkb2	0.17	2.04	1.49	0.023
Nfkbia	0.16	1.9	1.17	0.082
Kat2b	0.11	0.76	0.32	0.732
Psip1	0.28	0.39	0.24	0.433
Raf1	0.22	0.56	0.43	0.492
Rel	0.62	1.29	0.96	0.093
Rela	0.1	1	0.62	0.19
Ripk1	0.08	0.58	-0.84	0.47
Ripk2	0.14	0.93	-0.26	0.169
Smad4	0.06	0.57	0.25	0.971
Stat1	-0.03	0.43	0.13	0.673
Tbk1	0.45	0.74	0.53	0.358
Timp1	0.49	3.31	2.79	0.046
Tlr1	-0.43	2.21	1.9	0.004
Tlr2	0.58	1.6	1.32	0.265
Tlr3	-0.52	0.6	0.01	0.401
Tlr4	-0.41	-0.74	-0.77	0.267
Tlr6	-0.3	0.97	0.62	0.363
Tlr9	-0.33	0.46	-0.45	0.144
Tnf	0.9	4.03	3.17	0.002

Tnfrsf10b	-0.75	0.69	-0.06	0.309
Tnfrsf1a	0.87	2.19	1.54	0.213
Tnfrsf1b	-0.7	1.47	0.43	0.142
Tnfsf10	-0.11	0.07	-0.38	0.607
Tnfsf14	-0.46	0.08	-0.22	0.599
Tollip	1.07	1.27	1.53	0.192
Tradd	-0.09	0.52	-0.26	0.972
Traf2	0.08	0.64	0.26	0.989
Traf3	0.06	-0.01	-0.04	0.489
Traf6	0.06	0.55	0.33	0.666
Zap70	-0.36	0.08	-0.49	0.5

Supplementary Table 2: Log2 fold change in gene expression relative to control region 4 Days post-FUS and corresponding repeated measures, one-way ANOVA p-values

Gene Names	Log2 Fold Change vs Control Region			ANOVA P-Value
	Scheme 1	Scheme 2	Scheme 3	
Agt	-0.62	-0.34	-0.27	0.665
Akt1	0.1	0.11	0.31	0.228
Atf1	0.34	0.11	0.28	0.016
Atf2	0.35	0.05	0.17	0.653
Bcl10	0.16	0.58	0.24	0.193
Bcl2a1	0.94	1.73	1.95	0.407
Bcl2l1	-0.35	0.38	0.54	0.618
Bcl3	0.39	0.41	1.13	0.858
Birc3	1.3	0.58	1.91	0.892
Card10	-0.6	0.26	-0.37	0.307
Card11	0.24	1.02	0.18	0.674
Casp1	-0.04	0.86	0	0.6
Casp8	1.53	1.66	1.89	0.498
Ccl2	-0.51	1.27	-0.12	0.042
Ccl5	-0.67	0.01	-0.23	0.785
Cd40	-0.13	0.9	-0.17	0.74
Cflar	0.16	-0.15	-0.01	0.358
Chuk	0.22	0.13	0.86	0.628
Crebbp	1.5	-0.11	1.4	0.025
Csf1	0.46	0.88	0.72	0.124
Csf2	-1.31	0.28	-0.5	0.632
Csf3	-0.24	-0.27	0.12	0.652
Egfr	0.17	-0.31	0.46	0.292
Egr1	1.75	0.87	2.12	0.216
Eif2ak2	-0.12	0.28	-0.14	0.623
F2r	-0.19	1.15	0.28	0.842

Fadd	0.15	0.56	1.05	0.3
Faslg	-0.43	-0.43	-0.31	0.769
Fos	0.36	0.52	0.52	0.832
Hmox1	0.58	1.5	0.9	0.813
Icam1	-0.62	1.15	-0.07	0.308
Ifna1	0.63	0.26	0.93	0.754
Ifng	0.03	0.06	0.41	0.754
Ikbkb	-0.24	0.5	0.05	0.849
Ikbke	-1.03	0.65	-0.44	0.339
Ikbkg	1.33	0.01	1.39	0.895
Il10	1.21	-0.27	1.87	0.652
Il1a	-0.68	0.1	-0.15	0.744
Il1b	-0.36	0.61	0.65	0.515
Il1r1	-0.42	0.56	0.11	0.263
Irak1	0.04	-0.05	0.15	0.327
Irak2	-0.04	-0.11	-0.52	0.345
Irak4	-0.13	0.42	-0.5	0.159
Irf1	0.92	0.21	1.21	0.836
Jun	-0.6	0.52	0.02	0.268
LOC687813	-0.17	0.57	0.65	0.84
Lta	0.08	0.2	1.14	0.749
Ltbr	1.43	0.89	1.57	0.823
Map2k3	0.46	0.26	1.14	0.448
Map3k1	-0.06	0.59	0.16	0.858
Mapk3	-0.03	0.39	0.59	0.129
Myd88	-0.07	0.02	-0.15	0.931
Nfkb1	-0.11	0.06	0.2	0.648
Nfkb2	-1.64	0.23	-1.15	0.63
Nfkbia	-1.02	0.16	-0.8	0.522
Kat2b	0.8	0.39	0.95	0.339
Psip1	0.24	0.29	0.36	0.625
Raf1	1.45	0.17	1.26	0.027
Rel	-0.5	0.69	-0.18	0.429
Rela	0.64	0.8	0.81	0.993
Ripk1	0.59	0.31	1.27	0.091
Ripk2	-0.12	0.94	0.19	0.858
Smad4	0.12	0.48	0.55	0.48
Stat1	-0.25	0.62	0.38	0.289
Tbk1	0.24	0.44	0.37	0.364
Timp1	0.52	2.4	1.2	0.035
Tlr1	0.23	1.54	0.76	0.221
Tlr2	0.32	1.38	0.52	0.489

Tlr3	1.08	1.33	1.17	0.404
Tlr4	0.92	0.74	0.57	0.634
Tlr6	-0.32	0.51	-0.4	0.522
Tlr9	0.12	1.32	0.31	0.729
Tnf	-0.2	0.03	0.81	0.91
Tnfrsf10b	-0.64	-0.03	-0.25	0.583
Tnfrsf1a	-0.42	0.18	0.03	0.786
Tnfrsf1b	0.14	1.1	0.51	0.696
Tnfsf10	-0.79	-0.13	0.08	0.16
Tnfsf14	-1.84	0.01	-1.17	0.632
Tollip	0.3	0.26	0.2	0.744
Tradd	-1.56	-0.05	-1.5	0.398
Traf2	0.06	-0.32	0.78	0.202
Traf3	1.09	-0.03	1.59	0.222
Traf6	-0.38	0.34	0.08	0.985
Zap70	0.04	0.23	0.76	0.749
