

The Influence of Therapeutic Ultrasound Stimulation on Schwann Cell Plasticity for Peripheral Nerve Regeneration – Supplementary Materials

1. Proliferation Raw Data

Table 1. Proliferation raw data for US applied 24 h after seeding (total culture time 36 h). Values marked in red were identified as outliers based on the interquartile range for each condition and were removed from the data set for statistical analysis calculations.

Condition	Sample	Replicate 1	Replicate 2	Replicate 3	Replicate 4	Replicate 5	Replicate 6
No US on CS	1	0.083	0.074	0.079	0.081	0.078	0.084
No US on CS	2	0.095	0.093	0.092	0.093	0.088	0.087
No US on CS	3	0.091	0.094	0.087	0.087	0.098	0.083
No US on CS	4	0.089	0.088	0.083	0.09	0.088	0.081
3L US on CS	1	0.101	0.096	0.096	0.091	0.738	0.093
3L US on CS	2	0.107	0.079	0.1	0.099	0.095	0.083
3L US on CS	3	0.216	0.102	0.099	0.103	0.099	0.114
3L US on CS	4	0.114	0.087	0.1	0.092	0.102	0.106
3M US on CS	1	0.074	0.077	0.076	0.075	0.075	0.075
3M US on CS	2	0.072	0.076	0.077	0.12	0.065	0.143
3M US on CS	3	0.065	0.066	0.066	0.065	0.063	0.067
3M US on CS	4	0.071	0.075	0.072	0.067	0.068	0.072
No US on PVDF	1	0.306	0.11	0.301	0.09	0.087	0.104
No US on PVDF	2	0.09	0.204	0.078	0.094	0.09	0.097
No US on PVDF	3	1.049	0.218	0.232	0.484	0.094	0.402
No US on PVDF	4	0.101	0.085	0.085	0.094	0.158	0.096
3L US on PVDF	1	0.154	0.157	0.161	0.158	0.205	0.162
3L US on PVDF	2	0.138	0.144	0.149	0.144	0.147	0.147
3L US on PVDF	3	0.154	0.161	0.163	0.156	0.161	0.163
3L US on PVDF	4	0.149	0.149	0.15	0.149	0.152	0.144
3M US on PVDF	1	0.077	1.039	0.127	0.124	0.096	0.158
3M US on PVDF	2	0.232	0.071	0.355	0.415	0.084	0.087
3M US on PVDF	3	0.192	0.083	0.078	0.224	0.081	0.08
3M US on PVDF	4	0.349	0.332	0.433	0.152	0.658	0.082

Table 2. Proliferation raw data for US applied 16 h after seeding (total culture time 40 h). Values marked in red were identified as outliers based on the interquartile range for each condition and were removed from the data set for statistical analysis calculations.

Condition	Sample	Replicate 1	Replicate 2	Replicate 3	Replicate 4	Replicate 5	Replicate 6
No US on CS	1	0.086	0.09	0.086	0.086	0.07	0.885
No US on CS	2	0.082	0.088	0.095	0.091	0.088	0.076
No US on CS	3	0.076	0.085	0.085	0.087	0.082	0.118

No US on CS	4	0.097	0.097	0.094	0.099	0.097	0.102
3L US on CS	1	0.11	0.099	0.1	0.098	0.103	0.136
3L US on CS	2	0.086	0.082	0.085	0.086	0.079	0.087
3L US on CS	3	0.091	0.085	0.085	0.093	0.087	0.09
3L US on CS	4	0.091	0.086	0.082	0.088	0.087	0.091
3M US on CS	1	0.086	0.091	0.102	0.102	0.085	0.098
3M US on CS	2	0.28	0.116	0.097	0.094	0.094	0.102
3M US on CS	3	0.083	0.084	0.093	0.14	0.108	0.116
3M US on CS	4	0.113	0.159	0.086	0.096	0.105	0.122
3H US on CS	1	0.091	0.111	0.09	0.135	0.088	0.092
3H US on CS	2	0.078	0.089	0.08	0.091	0.099	0.091
3H US on CS	3	0.098	0.115	0.087	0.127	0.109	0.159
3H US on CS	4	0.095	0.121	0.098	0.085	0.103	0.11
No US on PVDF	1	0.11	0.213	0.09	0.085	0.084	0.084
No US on PVDF	2	0.106	0.095	0.091	0.097	0.093	0.082
No US on PVDF	3	0.153	0.156	0.104	0.104	0.14	0.117
No US on PVDF	4	0.089	0.083	0.097	0.15	0.088	0.167
3L US on PVDF	1	0.126	0.102	0.11	0.102	0.106	0.12
3L US on PVDF	2	0.081	0.098	0.098	0.086	0.098	0.098
3L US on PVDF	3	0.112	0.09	0.104	0.116	0.115	0.11
3L US on PVDF	4	0.093	0.088	0.095	0.101	0.099	0.11
3M US on PVDF	1	0.101	0.079	0.096	0.112	0.092	0.103
3M US on PVDF	2	0.093	0.114	0.099	0.088	0.096	0.1
3M US on PVDF	3	0.1	0.091	0.113	0.104	0.109	0.113
3M US on PVDF	4	0.097	0.101	0.106	0.099	0.108	0.107
3H US on PVDF	1	0.087	0.086	0.087	0.073	0.083	0.086
3H US on PVDF	2	0.075	0.086	0.094	0.086	0.088	0.1
3H US on PVDF	3	0.1	0.108	0.104	0.123	0.11	0.107
3H US on PVDF	4	0.089	0.088	0.092	0.089	0.084	0.097

2. Alignment Raw Data

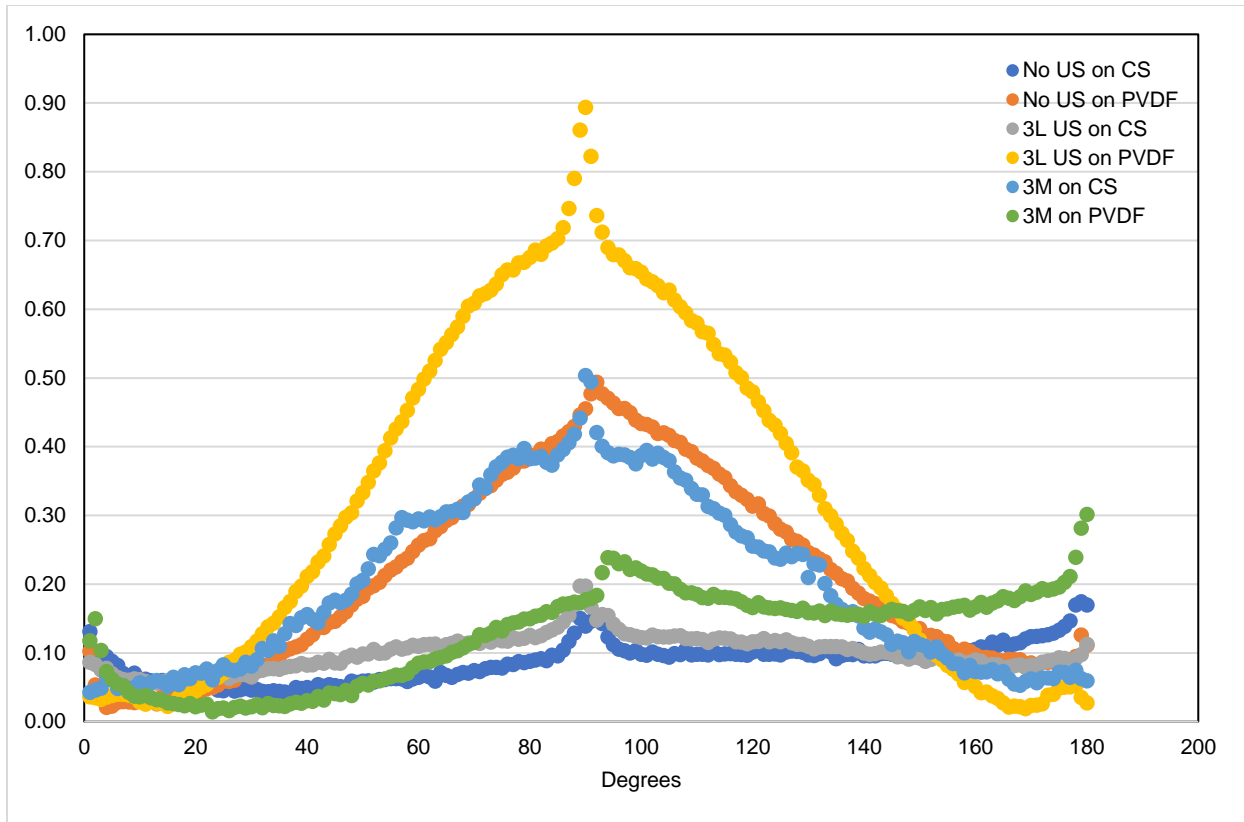


Figure 1. Mean radial sums generated from oval profiles and measured from 0 to 180 degrees.

3. Elongation Raw Data

Table 3. Elongation raw data for US applied 24 h after seeding (total culture time 36 h). Values marked in red were identified as outliers based on the interquartile range for each condition and were removed from the data set for statistical analysis calculations.

Condition	Sample	Image	Replicate 1	Replicate 2	Replicate 3	Replicate 4	Replicate 5
No US on CS	1	seq18445.nd2	5.89	3.37	2.4	1.98	1.69
No US on CS	1	seq18447.nd2	2.68	2.34	1.83	1.81	1.54
No US on CS	1	seq18449.nd2	2.12	2.1	2.02	1.96	1.33
No US on CS	1	seq18451.nd2	2.51	2.26	1.78	1.68	1.52
No US on CS	1	seq18453.nd2	1.73	1.36	1.34		
No US on CS	1	seq18455.nd2	1.5	1.44	1.43	1.26	1.17
No US on CS	1	seq18457.nd2	2.51	2.38	2.11	1.85	1.81
No US on CS	1	seq18459.nd2	2.56	1.94	1.61	1.53	1.5
No US on CS	1	seq18461.nd2	3	2.46	1.84	1.51	1.21
No US on CS	1	seq18463.nd2	3.43	3.18	1.29	1.21	1.2
No US on CS	2	seq18455.nd2	1.5	1.44	1.43	1.26	1.17
No US on CS	2	seq18457.nd2	2.51	2.38	2.11	1.85	1.81
No US on CS	2	seq18459.nd2	2.56	1.94	1.61	1.53	1.5
No US on CS	2	seq18461.nd2	3	2.46	1.84	1.51	1.21
No US on CS	2	seq18463.nd2	3.43	3.18	1.29	1.21	1.2
No US on CS	3	seq18465.nd2	2.56	1.76	1.55	1.21	
No US on CS	3	seq18467.nd2	3.11	1.85	1.2		
No US on CS	3	seq18469.nd2	2.58	1.93	1.49		
No US on CS	3	seq18471.nd2	2.05	1.37			
No US on CS	3	seq18473.nd2	1.6	1.4			
No US on CS	3	seq18475.nd2	1.73	1.56	1.56		
No US on CS	3	seq18477.nd2	2.12	1.44	1.4		
No US on CS	3	seq18479.nd2	1.91	1.89	1.88		
3L US on CS	1	seq18485.nd2	1.67	1.37	1.28		
3L US on CS	1	seq18487.nd2	2.08	1.9	1.69		
3L US on CS	1	seq18489.nd2	1.86	1.57	1.44		
3L US on CS	1	seq18491.nd2	2.15	1.51	1.31		
3L US on CS	1	seq18493.nd2	2.55				
3L US on CS	1	seq18495.nd2	2.09	1.68	1.39	1.32	
3L US on CS	1	seq18497.nd2	2.2	2.2	1.79	1.49	
3L US on CS	1	seq18499.nd2	2.18	1.55			

3L US on CS	2	seq18501.nd2	2.12	2.05	1.64	1.34	
3L US on CS	2	seq18503.nd2	2.1	1.56	1.25	1.23	
3L US on CS	2	seq18505.nd2	1.62	1.45			
3L US on CS	2	seq18507.nd2	2.13	1.52	1.38		
3L US on CS	2	seq18509.nd2	2.45	1.83	1.81	1.78	
3L US on CS	2	seq18511.nd2	3.87	1.57	1.57	1.48	
3L US on CS	2	seq18513.nd2	1.77	1.64	1.35		
3L US on CS	2	seq18515.nd2	1.64	1.38			
3L US on CS	3	seq18517.nd2	1.77	1.49	1.46	1.21	1.16
3L US on CS	3	seq18519.nd2	1.9	1.65	1.28		
3L US on CS	3	seq18521.nd2	1.68	1.65	1.58	1.37	
3L US on CS	3	seq18523.nd2	1.62	1.27			
3L US on CS	3	seq18527.nd2	1.91	1.67	1.48	1.33	
3L US on CS	3	seq18529.nd2	3.53	1.32	1.19		
3L US on CS	3	seq18531.nd2	1.77	1.57	1.21		
3L US on CS	4	seq18547.nd2	1.81	1.75	1.34		
3L US on CS	4	seq18545.nd2	2.03	1.23			
3L US on CS	4	seq18543.nd2	2.14	1.47	1.45		
3L US on CS	4	seq18533.nd2	1.75	1.66	1.23		
3L US on CS	4	seq18535.nd2	2.36	1.5	1.26		
3L US on CS	4	seq18537.nd2	1.97	1.93	1.79	1.3	
3L US on CS	4	seq18539.nd2	1.73	1.55	1.21		

Table 1. Elongation raw data for US applied 16 h after seeding (total culture time 40 h). Values marked in red were identified as outliers based on the interquartile range for each condition and were removed from the data set for statistical analysis calculations.

Condition	Sample	Image	Replicate 1	Replicate 2	Replicate 3	Replicate 4	Replicate 5	Replicate 6
No US on CS	1	seq18034.nd2	1.95	1.86	1.78			
No US on CS	1	seq18036.nd2	3.39	3.09	2.47			
No US on CS	1	seq18038.nd2	2.68	2.39	2.26			
No US on CS	1	seq18040.nd2	2.62	2.58	2.55			
No US on CS	1	seq18042.nd2	2.58	1.8	1.76			
No US on CS	2	seq18046.nd2	3.06	2.59	2.42			

No US on CS	2	seq18049.nd 2	2.95	2.18	1.8			
No US on CS	2	seq18053.nd 2	3.28	2.77	2.18			
No US on CS	2	seq18050.nd 2	4.29	3.19	3.05			
No US on CS	2	seq18060.nd 2	7.93	6.09	4.49			
No US on CS	3	seq18072.nd 2	2.5	2	1.81			
No US on CS	3	seq18074.nd 2	2.46	2.13	2.05			
No US on CS	3	seq18077.nd 2	2.64	1.85	1.61			
No US on CS	3	seq18079.nd 2	10.9	3.72	3.49			
No US on CS	3	seq18081.nd 2	1.81	1.61	1.47			
No US on CS	4	seq18100.nd 2	2.97	2.31	1.46			
No US on CS	4	seq18094.nd 2	7.69	2.16	1.55			
No US on CS	4	seq18086.nd 2	2.3	1.53	1.35			
No US on CS	4	seq18084.nd 2	1.81	1.64	1.42			
No US on CS	4	seq18098.nd 2	2.1	1.95	1.57			
3L US on CS	1	seq18336.nd 2	2.31	1.53	1.18			
3L US on CS	1	seq18334.nd 2	5.11	4.95	1.73			
3L US on CS	1	seq18328.nd 2	3.89	3	1.93			
3L US on CS	1	seq18332.nd 2	1.75	1.67	1.67			
3L US on CS	1	seq18330.nd 2	1.98	1.87	1.87			
3L US on CS	2	seq18338.nd 2	1.99	1.32	1.3			
3L US on CS	2	seq18339.nd 2	2.17	1.79	1.54			
3L US on CS	2	seq18340.nd 2	2.2	1.75	1.51			
3L US on CS	2	seq18341.nd 2	5.51	4.22	1.89			
3L US on CS	2	seq18342.nd 2	3.72	2.33				
3L US on CS	3	seq18346.nd 2	2.26	1.96	1.87			
3L US on CS	3	seq18347.nd 2	3.29	2.67	2.11			
3L US on CS	3	seq18348.nd 2	5.17	4.6	1.37			
3L US on CS	3	seq18349.nd 2	4.55	2.53	1.34			
3M US on CS	1	seq18122.nd 2	3.51	2.42	2.15			
3M US on CS	1	seq18120.nd 2	2.52	1.51	1.32			
3M US on CS	1	seq18118.nd 2	1.91	1.36	1.36			
3M US on CS	1	seq18114.nd 2	3.22	2.64	1.74			
3M US on CS	1	seq18108.nd 2	7.71	2.78	1.34			
3M US on CS	2	seq18134.nd 2	2.64	2.6	1.31			

3M US on CS	2	seq18130.nd 2	7.36	2.93	2.26			
3M US on CS	2	seq18128.nd 2	3.65	1.81	1.48			
3M US on CS	2	seq18132.nd 2	8.71					
3M US on CS	2	seq18136.nd 2	1.43					
3M US on CS	3	seq18157.nd 2	4.2	2.39	2.2			
3M US on CS	3	seq18154.nd 2	5.61					
3M US on CS	3	seq18153.nd 2	14.23	2.08	1.59			
3M US on CS	3	seq18150.nd 2	1.29	1.28				
3M US on CS	3	seq18140.nd 2	2.05					
No US on PVDF	1	1 tritc.nd2	10.91	6.05	4.84			
No US on PVDF	1	seq18164.nd 2	5.95	2.65	1.53			
No US on PVDF	1	seq18168.nd 2	6.65	4.13	3.64			
No US on PVDF	1	seq18169.nd 2	7.74	5.05	3.13	2.32		
No US on PVDF	2	seq18172.nd 2	2.83	2.34	1.42			
No US on PVDF	2	seq18174.nd 2	6.67	3.11	1.58			
No US on PVDF	2	seq18175.nd 2	12.77	6.92	3.24			
No US on PVDF	2	seq18177.nd 2	2.3	2.16	1.58			
No US on PVDF	2	seq18181.nd 2	4.7	3.3	3.19	1.89		
No US on PVDF	3	seq18185.nd 2	6.88	5.11	4.35	2.63	1.59	1.27
No US on PVDF	3	seq18187.nd 2	1.81	1.81	1.73	1.6		
No US on PVDF	3	seq18189.nd 2	7.99	7.08	6.27	4.17	3.72	
No US on PVDF	3	seq18191.nd 2	3.81	2.11	1.71	1.69	1.48	
No US on PVDF	3	seq18193.nd 2	11.46	7.3	2.13	1.95		
3L US on PVDF	1	seq18350.nd 2	9.54	5.87	5.25			
3L US on PVDF	1	seq18352.nd 2	9.76	6.18	4.51			
3L US on PVDF	1	seq18354.nd 2	6.34	6.01	5.11			
3L US on PVDF	1	seq18356.nd 2	9.42	7.15	4.6			
3L US on PVDF	1	seq18358.nd 2	9.31	8.26	2.13			
3L US on PVDF	2	seq18363.nd 2	7.31	5.99	1.79			
3L US on PVDF	2	seq18365.nd 2	12.08	6.47	4.88			
3L US on PVDF	2	seq18367.nd 2	5.58	5.49	3.28			
3L US on PVDF	2	seq18369.nd 2	6	2.97	1.95			
3L US on PVDF	3	seq18384.nd 2	6.98	6.79	4.75			
3L US on PVDF	3	seq18386.nd 2	12.17	7.19	5.6			

3L US on PVDF	4	seq18379.nd 2	9.03	7.63	4.42			
3L US on PVDF	4	seq18371.nd 2	7.62	5.32	3.4			
3L US on PVDF	4	seq18373.nd 2	9.27	4.59	2.24			
3L US on PVDF	4	seq18375.nd 2	7.49	6.03	3.8			
3L US on PVDF	4	seq18377.nd 2	8.16	5.48	4.61			
3M US on PVDF	1	seq18198.nd 2	6.77	6.03	4.13			
3M US on PVDF	1	seq18199.nd 2	7.82	7.52	6.37			
3M US on PVDF	1	seq18201.nd 2	5.57	5.07	1.42			
3M US on PVDF	1	seq18203.nd 2	9.18	3.72	1.78			
3M US on PVDF	1	seq18196.nd 2	2.27					
3M US on PVDF	2	seq18206.nd 2	3.54	3.49	2.16	1.91		
3M US on PVDF	2	seq18208.nd 2	6.18	5.82	4.83	3.56		
3M US on PVDF	2	seq18212.nd 2	8.66	8.6	4.84			
3M US on PVDF	2	seq18210.nd 2	8.98	5.37	5.15			
3M US on PVDF	2	seq18214.nd 2	7.11	4.87	3.81			
3M US on PVDF	3	seq18220.nd 2	9.08	8.07	5.96			
3M US on PVDF	3	seq18216.nd 2	9.4	7.54	7.07			