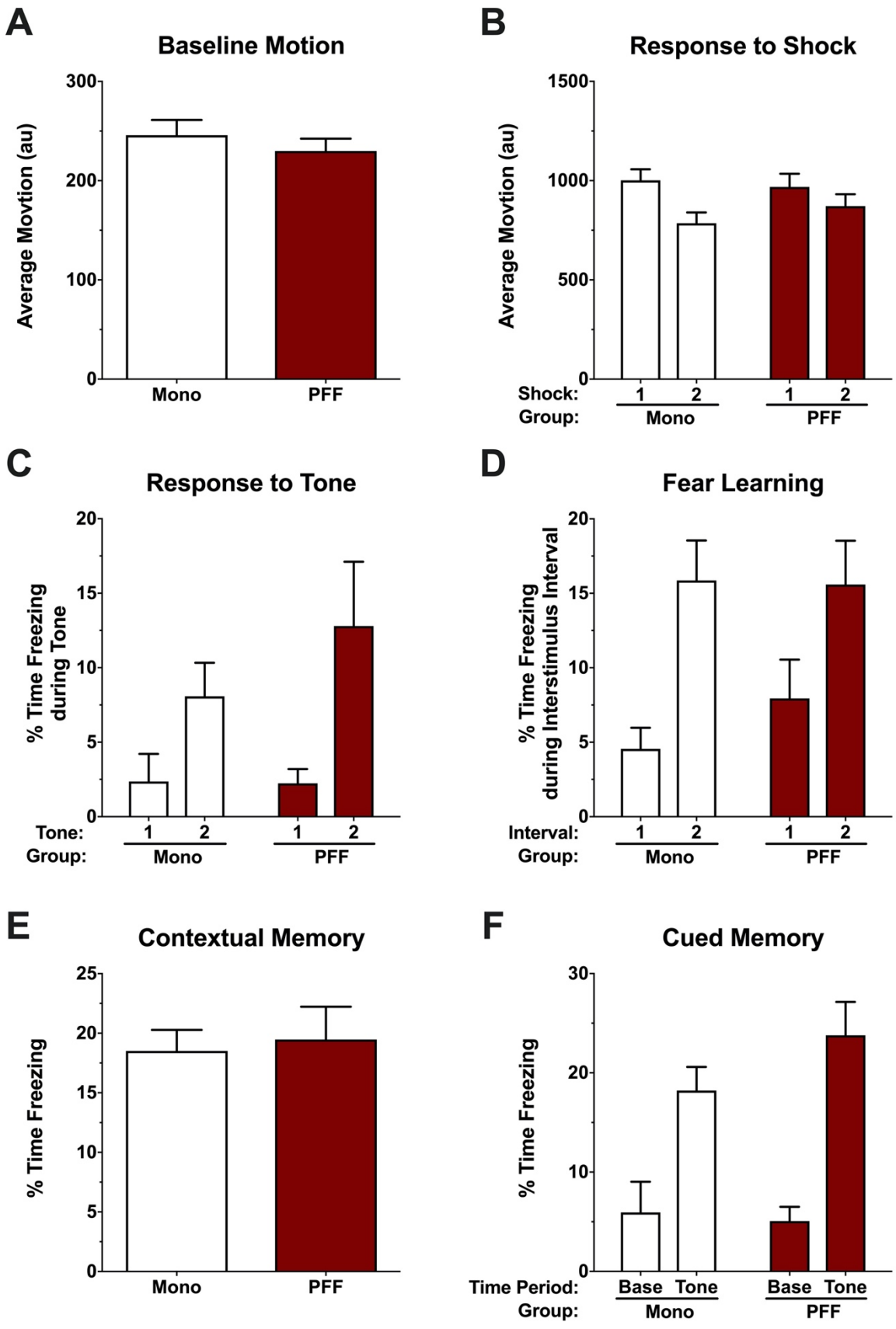
Supplementary Material

Effects of Alpha-Synuclein Targeted Antisense Oligonucleotides on Lewy Body-Like Pathology and Behavioral Disturbances Induced by Injections of Pre-Formed Fibrils in the Mouse Motor Cortex

Supplementary Figure 1. Fear conditioning data at 3 mpi. A) Baseline motion before any tones or shocks during training day. An independent samples t-test did not reveal a difference based on PFF status ($p = 0.428$). B) Average motion during the shocks on training day. A repeated measures ANOVA indicated that both groups reacted similarly to the tones ($p = 0.708$). C) Percent time spent freezing during the tones on training day. A repeated measures ANOVA indicated that both groups froze similarly to the tone ($p = 0.403$). D) Percent time spent freezing during the inter-stimulus intervals on training day. A repeated measures ANOVA indicated that both groups froze similarly during the intervals ($p = 0.616$). E) Total percent time freezing during the 5 min contextual recall test. An independent samples t-test did not show any differences between Mono and PFF mice ($p = 0.772$). F) Percent time spent freezing during the baseline and tone in the cued recall test. A repeated measures ANOVA did not reveal differences in response to the tone ($p = 0.409$).


A
Baseline Motion
Average Movtion (au)
300
200
100
0
Mono
PFF
B
Response to Shock
Average Movtion (au)
1500
1000
500
0
Shock:
1
2
1
2
Group:
Mono
PFF
C
Response to Tone
% Time Freezing during Tone
20
15
10
5
0
Tone:
1
2
1
2
Group:
Mono
PFF
D
Fear Learning
% Time Freezing during Interstimulus Interval
20
15
10
5
0
Interval:
1
2
1
2
Group:
Mono
PFF
E
Contextual Memory
% Time Freezing
25
20
15
10
5
0
Mono
PFF
F
Cued Memory
% Time Freezing
30
20
10
0
Time Period:
Base
Tone
Base
Tone
Group:
Mono
PFF

Supplementary Figure 2. Average velocity during the water maze. A-D) Average velocity during the water maze at 3 mpi (*left*) and 6 mpi (*right*). We found a significant time-by-ASO interaction during the hidden platform locations ($F(7.527,218.278) = 3.705$, $p < 0.01$) and the visible platform locations ($F(1.507,43.716) = 3.864$, $p < 0.05$). There were no effects of PFF on swim speeds. E) Averaged velocity across the platform locations. ASO animals swam slower following treatment than Scramble animals ($p < 0.05$). No differences were detected prior to ASO delivery. F) Average velocity during the probe trials before and after ASO delivery. A significant time by ASO interaction ($F(3.025,87.736) = 9.452$, $p < 0.0001$) indicated that ASO mice swam slower after delivery. We also found a trend toward a time by PFF interaction ($F(3.025,87.736) = 2.397$, $p = 0.073$) and a trend towards a main effect of PFF ($F(1,29) = 4.003$, $p = 0.055$). $^{*}p < 0.05$. $^{\&}p < 0.05$, Time*ASO.