

Supplementary data to:

**5,6,7,4'-TETRAMETHOXYFLAVANONE PROTECTS AGAINST
NEURONAL DEGENERATION INDUCED BY DEXAMETHASONE
BY ATTENUATING AMYLOIDOGENESIS IN MICE**

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Supplementary Table 1: Raw data for anxiety investigation by OFT (video was tracked by SMART software; Panlab Harward Apparatus) which relate to Figure 2B–2E

OFT		Time (sec)						Average	SD	SEM
Time in central	n1	n2	n3	n4	n5	n6				
Control	3.13	3.14	3.81	3.05	3.87	3.11	3.36	0.39	0.16	
TMF	1.51	3.49	2.6	6.21	1.56	1.56	2.53	0.99	0.40	
Pioglitazone	1.91	2.03	2.31	2.66	2.23	5.89	2.08	0.21	0.08	
DEX	0.06	0.41	0.2	0.2	0.57	0.03	0.22	0.18	0.07	
DEX plus TMF	3.76	1.98	2.11	2.48	1.23	4.62	2.62	0.99	0.41	
DEX plus pioglitazone	1.99	3.62	2.23	2.03	2.05	4.71	2.61	0.88	0.36	

OFT		Time (sec)						Average	SD	SEM
Time in peripheral	n1	n2	n3	n4	n5	n6				
Control	296.87	295.86	296.19	296.71	295.12	296.98	296.31	0.52	0.21	
TMF	293.49	298.51	297.4	297.59	293.61	291.83	296.47	2.64	1.08	
Pioglitazone	295.09	297.07	296.19	293.92	298.12	296.47	296.12	0.99	0.40	
DEX	299.94	298.59	299.7	299.11	298.23	299.12	299.41	0.72	0.29	
DEX plus TMF	296.24	295.22	296.89	294.92	295.12	297.98	296.12	0.84	0.34	
DEX plus pioglitazone	295.01	296.38	297.07	296.46	295.12	298.02	296.15	1.05	0.43	

OFT		Times						Average	SD	SEM
Number of rearing	n1	n2	n3	n4	n5	n6				
Control	27.5	24	28	25.5	19.5	28	26.50	2.18	0.89	
TMF	18	25	20	16	27.5	19.5	21.00	3.61	1.47	
Pioglitazone	27	24	31	22	33	27	27.33	3.51	1.43	
DEX	14	14.5	11	16	12.5	17	13.17	1.89	0.77	
DEX plus TMF	24	18	20	30	19	21	20.67	3.06	1.25	
DEX plus pioglitazone	30	19.5	21	22	22.5	21.5	23.50	5.68	2.32	

OFT		Times						Average	SD	SEM
Number of grooming	n1	n2	n3	n4	n5	n6				
Control	10	8	12	14	4	8	10.00	2.00	0.82	
TMF	8	7.5	11	11	5	6.5	8.83	1.89	0.77	
Pioglitazone	10.5	9.5	7.5	7	8	11.5	9.17	1.53	0.62	
DEX	1	2	1.5	1	2.5	1	1.50	0.50	0.20	
DEX plus TMF	5	8.5	6	10	3.5	3	6.50	1.80	0.74	
DEX plus pioglitazone	6.5	9.5	7	11.5	5.5	6	7.67	1.61	0.66	

Supplementary Table 2: Raw data for learning and memory test by MWM (video was tracked by SMART software; Panlab Harward Apparatus) which relate to Figure 3D–3F

MWM		Time (sec)						Average	SD	SEM
Escape latency time	n1	n2	n3	n4	n5	n6				
Control	4.89	4.69	4.14	5.18	5.94	5.53	4.57	0.39	0.16	
TMF	5.32	7.2	5.79	5.24	4.38	6.01	6.10	0.98	0.40	
Pioglitazone	3.76	5.41	7.01	5.79	8.79	6.32	5.39	1.63	0.66	
DEX	13.38	14.65	18.17	14.43	14.56	14.03	15.40	2.48	1.01	
DEX plus TMF	12.25	10.65	10.64	11.84	11.75	13.21	11.18	0.93	0.38	
DEX plus pioglitazone	7.48	9.87	8.92	7.22	9.16	11.35	8.76	1.20	0.49	

MWM		Time (sec)						Average	SD	SEM
Time in target quadrant	n1	n2	n3	n4	n5	n6				
Control	23.5	18.2	22.99	24.62	19.08	24.09	22.4	2.92	1.19	
TMF	29.27	23.31	14.91	24.46	19.59	24.89	24.12	7.21	2.95	
Pioglitazone	21.53	20.48	21.93	17.85	16.95	25.47	21.54	0.75	0.31	
DEX	10.66	13.75	14.82	10.66	13.75	14.82	16.65	2.16	0.88	
DEX plus TMF	17.95	19.42	19.52	20.57	20.96	23.26	18.21	0.88	0.36	
DEX plus pioglitazone	20.49	21.01	17.49	22.1	20.73	19.41	19.31	1.90	0.78	

MWM		cm/sec						Average	SD	SEM
Swimming speed	n1	n2	n3	n4	n5	n6				
Control	33.57	41.25	53.45	35.62	34.22	31.01	42.76	10.03	4.09	
TMF	39.27	23.31	34.91	54.46	49.27	24.89	32.50	8.25	3.37	
Pioglitazone	34.56	29.55	34.21	45.01	36.66	55.21	32.77	2.80	1.14	
DEX	38.41	23.19	34.98	47.1	38.78	24.98	32.19	7.98	3.26	
DEX plus TMF	51.13	31.17	29.52	31.59	25.31	33.26	37.27	12.03	4.91	
DEX plus pioglitazone	31.12	41.61	27.81	36.91	32.31	41.78	33.51	7.20	2.94	

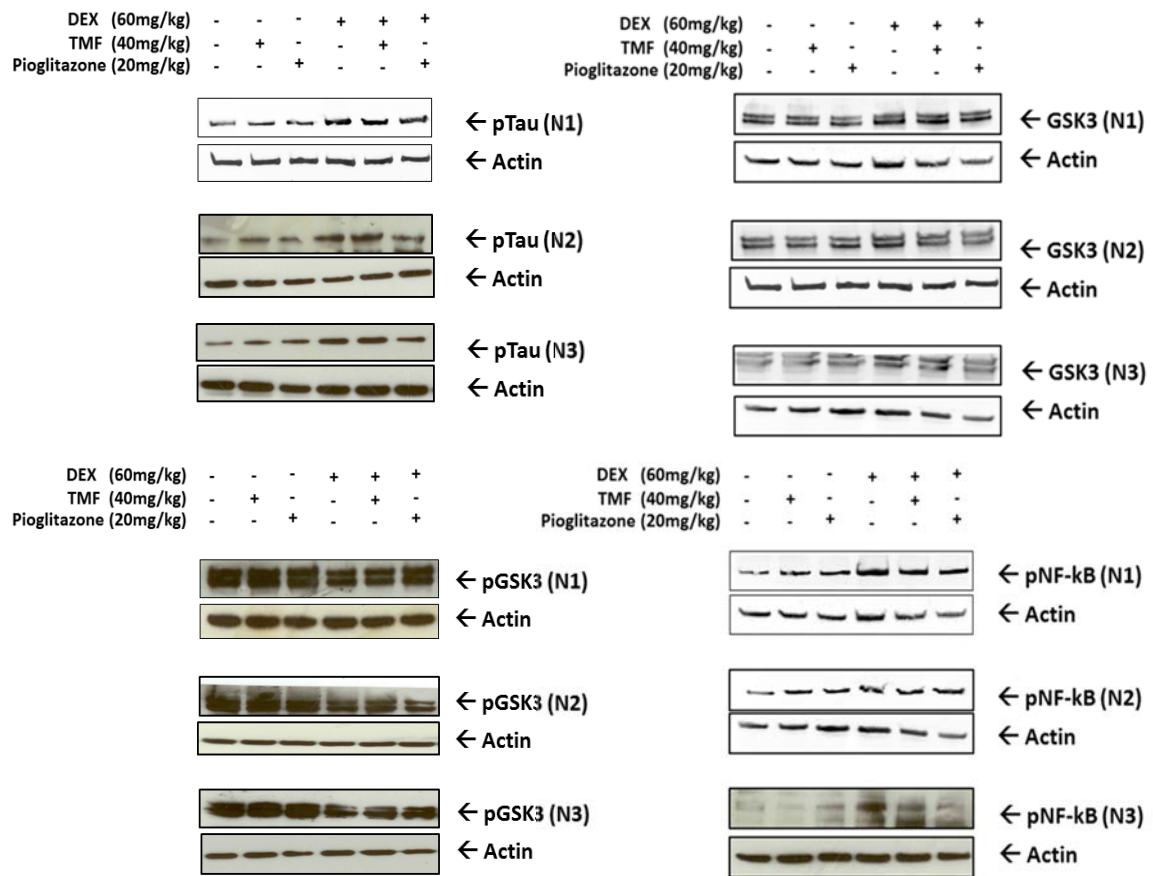
Supplementary Table 3: Raw data to investigate amyloidogenesis genes expression by qRT-PCR which relate to Figure 4A–4D

qRT-PCR		Fold change						Av-er-age	SD	SEM
ADAM10	n1	n2	n3	n4	n5	n6				
Control	1	1	1	1	1	1	1.00	0.00	0.00	
TMF	0.833409	1.062206	1.184229	0.833409	1.062206	1.184229	1.03	0.18	0.07	
Pioglitazone	1.773053	0.8704219	0.8440408	1.773053	0.8704219	0.8440408	1.16	0.53	0.22	
DEX	0.2477358	0.1157734	0.2160244	0.4477358	0.3157734	0.4160244	0.19	0.07	0.03	
DEX plus TMF	0.8410285	0.7429374	1.264839	0.7410285	0.8429374	1.464839	0.95	0.28	0.11	
DEX plus pioglitazone	1.911946	1.329108	1.694478	1.911946	1.329108	1.694478	1.65	0.29	0.12	

qRT-PCR		Fold change						Av-er-age	SD	SEM
BACE1	n1	n2	n3	n4	n5	n6				
Control	1	1	1	1	1	1	1.00	0.00	0.00	
TMF	1.125341	0.2770034	1.197147	1.125341	0.2770034	1.197147	0.87	0.51	0.21	
Pioglitazone	0.6465945	0.1194291	0.6414075	0.6465945	0.1194291	0.6414075	0.47	0.30	0.12	
DEX	2.197812	1.481598	1.563029	2.197812	1.481598	1.563029	1.75	0.39	0.16	
DEX plus TMF	1.595159	0.8679951	1.252444	1.295159	0.8679951	1.252444	1.24	0.36	0.15	
DEX plus pioglitazone	0.7254966	0.8641342	0.9435608	0.7254966	0.8641342	0.9435608	0.84	0.11	0.05	

qRT-PCR		Fold change						Aver-age	SD	SEM
PS1	n1	n2	n3	n4	n5	n6				
Control	1	1	1	1	1	1	1.00	0.00	0.00	
TMF	0.5703976	1.758815	0.5686346	0.5703976	1.758815	0.5686346	0.97	0.69	0.28	
Pioglitazone	0.6068053	0.3626619	0.5214976	0.6068053	0.3626619	0.5214976	0.50	0.12	0.05	
DEX	1.57512	1.570488	2.214808	1.57512	1.570488	2.214808	1.79	0.37	0.15	
DEX plus TMF	1.663366	1.655074	0.8003142	1.663366	1.655074	0.8003142	1.37	0.50	0.20	
DEX plus pioglitazone	1.179073	0.8606647	0.6428713	1.179073	0.8606647	0.6428713	0.89	0.27	0.11	

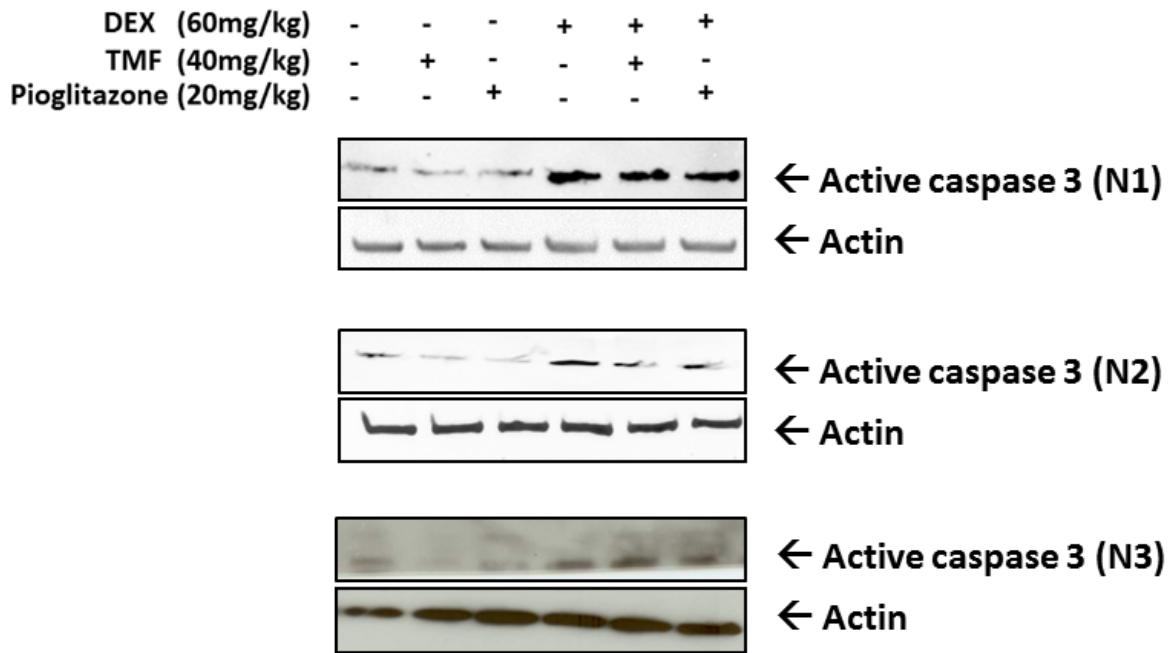
qRT-PCR		Fold change						Av-er-age	SD	SEM
APP	n1	n2	n3	n4	n5	n6				
Control	1	1	1	1	1	1	1.00	0.00	0.00	
TMF	1.145007	1.077904	0.9897956	1.145007	1.077904	0.9897956	1.07	0.08	0.03	
Pioglitazone	0.9769166	1.095183	0.9521693	0.9769166	1.095183	0.9521693	1.01	0.08	0.03	
DEX	1.145753	1.44271	1.280274	1.145753	1.44271	1.280274	1.29	0.15	0.06	
DEX plus TMF	1.175246	1.950779	1.086286	1.175246	0.9507794	1.086286	1.40	0.48	0.19	
DEX plus pioglitazone	1.276485	1.276485	0.9233383	1.276485	1.276485	0.9233383	1.16	0.20	0.08	



Supplementary Figure 1: Triplicate data for Western blotting experiments to study Tau protein expression which relate to Figure 5B–5E

Supplementary Table 4: Raw data for neuronal cell apoptosis study by TUNEL assay which relate to Figure 6C

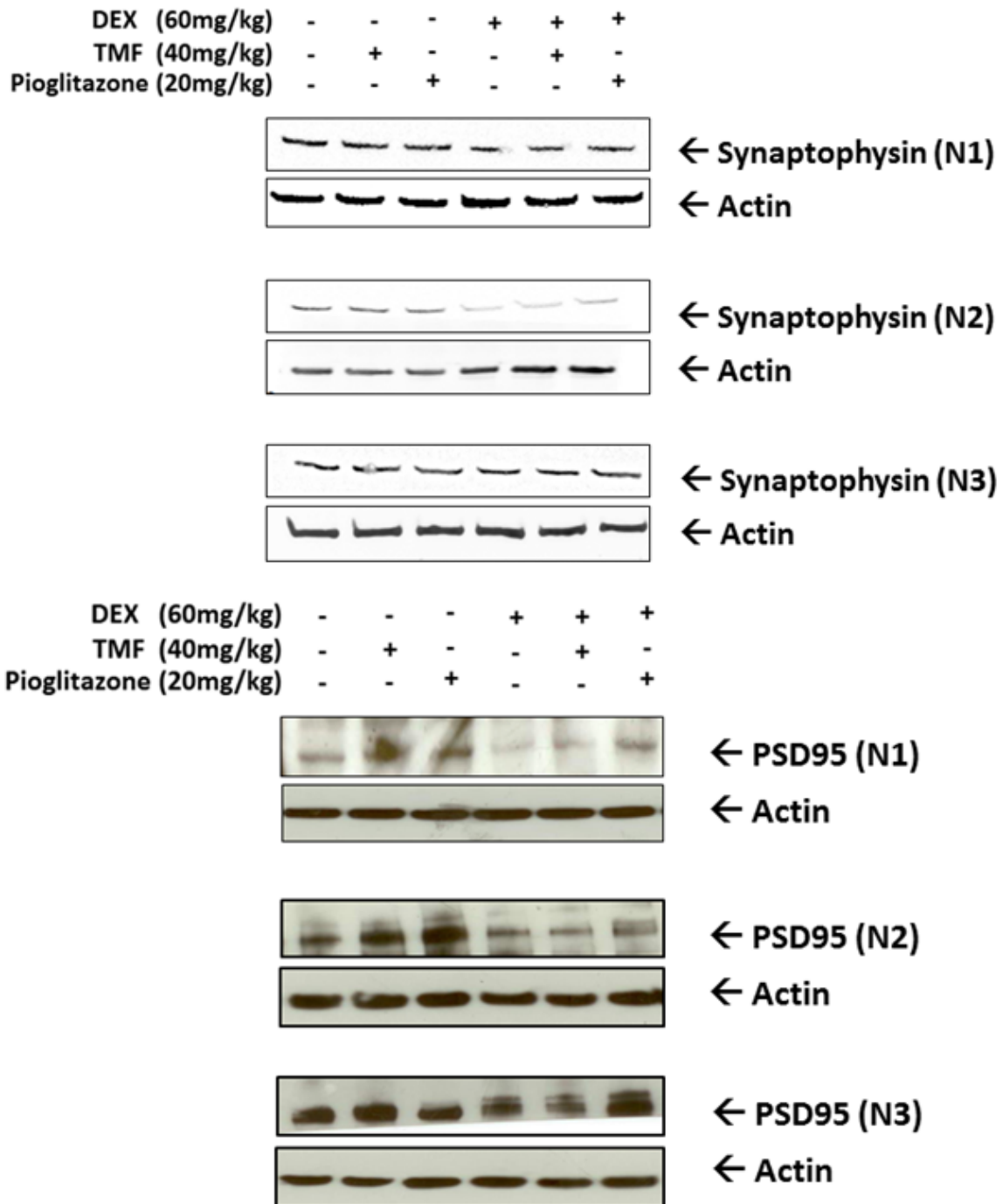
TUNEL	Apoptosis (% of control)						
	n1	n2	n3	n4	Average	SD	SEM
Control	100	100	100	100	100.00	0.00	0.00
TMF	94.11765	94.11765	70.58823	47.05882	86.27	13.58	6.79
Pioglitazone	94.11765	117.6471	141.1765	70.58823	117.65	23.53	11.76
DEX	188.2353	235.2941	208.2353	211.7647	210.59	23.62	11.81
DEX plus TMF	164.7059	141.1765	211.7647	141.1765	172.55	35.94	17.97
DEX plus pioglitazone	70.58823	117.6471	188.2353	164.7059	125.49	59.21	29.61



Supplementary Figure 2: Triplicate data for Western blotting experiments to study neuronal apoptosis which relate to Figure 6D.

Supplementary Table 5: Raw data to investigate AChE activity which relate to Figure 7A

AchE activity	mmol ACTC min ⁻¹ mg protein ⁻¹						Av-er-age	SD	SEM
	n1	n2	n3	n4	n5	n6			
Control	0.089964	0.088494	0.032928	0.045697	0.048363	0.079821	0.07	0.03	0.01
TMF	0.028371	0.037044	0.127743	0.088494	0.027048	0.04263	0.06	0.06	0.02
Pioglitazone	0.034545	0.045423	0.003381	0.100254	0.070854	0.034251	0.03	0.02	0.01
DEX	0.155085	0.114072	0.125852	0.136837	0.146265	0.116865	0.13	0.02	0.01
DEX plus TMF	0.103822	0.081438	0.053891	0.098891	0.072757	0.081879	0.08	0.03	0.01
DEX plus pioglitazone	0.014406	0.08613	0.074525	0.065288	0.085995	0.053059	0.06	0.04	0.01



Supplementary Figure 3: Triplicate data for Western blotting experiments to study neuronal synaptic function which relate to Figure 6D