Supplementary Material

Age-Related Oxidative Redox and Metabolic Changes Precede Intraneuronal Amyloid-β Accumulation and Plaque Deposition in a Transgenic Alzheimer's Disease Mouse Model

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Supplementary Table 1. Extracellular CA1 6E10 >80 μm^2.
2-factor ANOVA (significant in **bold**)

	comparison	subtest
3xTg-AD	female AM versus PM	**age F(6,34)=5, p=0.0009** **AM PM F(1,34)=5, p=0.03**
	male AM versus PM	age F(6,34)=1.4, n.s. AM PM F(1,4)=1.9, n.s.
	AM male versus female	**age F(6,34)=6, p=0.003** **sex F(1,34)=5, p=0.03**
	PM male versus female	age F(6,34)=1.2, n.s. sex F(1,34)=2.5, n.s.
female AM	genotype	**age F(6,34)=4.9, p=0.001** **genotype F(1,34)=7, p=0.01**
all	genotype	**age F(6,154)=4.1, p=0.0008** **genotype F(1,154)=8.8, p=0.004**

Supplementary Table 2. Extracellular CA1 mOC78 >80 μm^2.
2-factor ANOVA (significant in **bold**)

	comparison	subtest
3xTg-AD	female AM versus PM	**age F(6,34)=7.8, p<0.0001** AM PM F(1,34)=1.9, n.s.
	male AM versus PM	age F(6,34)=1.4, n.s. AM PM F(1,4)=0.7, n.s.
	AM male versus female	**age F(6,34)=4.4, p=0.002** **sex F(1,34)=8, p=0.008**
	PM male versus female	age F(6,34)=2.0, n.s. sex F(1,34)=1.3, n.s.
female AM	genotype	**age F(6,34)=4.0, p=0.004** **genotype F(1,34)=8, p=0.008**
all	genotype	**age F(6,160)=5.3, p<0.0001** **genotype F(1,160)=9.2, p=0.003**

Supplementary Table 3. Intracellular CA1 6E10
2-factor ANOVA (significant in **bold**)

	comparison	**subtest**
nTg	male AM versus PM	age F(6,24)=0.8, n.s. AM PM F(1,24)=1.1, n.s.
	female AM versus PM	**age F(6,26)=6.8, p=0.0002** AM PM F(1,26)=1.3, n.s.
	AM male versus female	**age F(6,26)=3.4, p=0.01** sex F(1,26)=0.1, n.s.
	PM male versus female	age F(6,24)=1.0, n.s. AM PM F(1,24)=2.8, n.s.
3xTg-AD	male AM versus PM	**age F(6,26)=3.8, p=0.007** AM PM F(1,26)=2.3, n.s.
	female AM versus PM	**age F(6,27)=3.7, p=0.008** AM PM F(1,27)=0.5, n.s.
	male+female combined AM versus PM	**age F(6,145)=4.40, p=0.0004** AM PM F(1,145)=0.04, n.s.
	AM male versus female	**age F(6,26)=6.6, p=0.0003** **sex F(1,26)=62, p<0.0001**
	PM male versus female	age F(6,27)=2.3, p=0.06 **sex F(1,27)=6.4, p=0.02**
male	AM nTg versus 3xTg-AD	**age F(6,24)=2.9, p=0.03** genotype F(1,24)=2.6, n.s.
	PM nTg versus 3xTg-AD	**age F(6,24)=2.9, p=0.03** genotype F(1,24)=2.6, n.s.
female	AM nTg versus 3xTg-AD	**age F(6,28)=9.0, p<0.0001** **genotype F(1,28)=146, p<0.0001**
	PM nTg versus 3xTg-AD	age F(6,25)=1.7, n.s. **genotype F(1,25)=18, p=0.0003**
all	AM PM	**age F(6, 145) = 4.4, p=0.0004** AM PM F (1, 145) = 0.04, n.s.
all	male female	**age F(6,145)=5.0, p=0.0001** **sex F(1,145)=11, p=0.001**

Supplementary Table 4. Intracellular CA1 mOC78
2-factor ANOVA (significant in **bold**)

	comparison	**subtest**
nTg	male AM versus PM	age $F(6,32)=2.0$, n.s. AM PM $F(1,32)=3.8$, n.s.
	female AM versus PM	age $F(6,32)=1.6$, n.s. AM PM $F(1,32)=0.7$, n.s.
	AM male versus female	age $F(6,32)=1.5$, n.s. sex $F(1,32)=1.0$, n.s.
	PM male versus female	**age $F(6,32)=2.5$, $p=0.05$** sex $F(1,32)=0.1$, n.s.
3xTg-AD	male AM versus PM	age $F(6,31)=1.0$, n.s. AM PM $F(1,31)=0.6$, n.s.
	female AM versus PM	age $F(6,33)=1.1$, n.s. AM PM $F(1,33)=0.1$, n.s.
	AM male versus female	age $F(6,31)=1.6$, n.s. **sex $F(1,31)=7.7$, $p=0.009$**
	PM male versus female	age $F(6,33)=1.3$, n.s. sex $F(1,33)=2.9$, n.s.
male	AM nTg versus 3xTg-AD	age $F(6,29)=1.8$, n.s. genotype $F(1,29)=1.4$, n.s.
	PM nTg versus 3xTg-AD	**age $F(6,34)=2.5$,$p=0.04$** genotype $F(1,34)=1.2$, n.s.
female	AM nTg versus 3xTg-AD	age $F(6,28)=0.9$, n.s. **genotype $F(1,28)=6.3$, $p=0.02$**
	PM nTg versus 3xTg-AD	age $F(6,31)=1.1$, n.s. **genotype $F(1,31)=4.9$, $p=0.04$**
all	AM PM	**age $F(6, 146) = 3.5$, $p=0.003$** AM PM $F(1, 146) = 0.9$, n.s.
all	male female	**age $F(6,146)=3.6$, $p=0.003$** **sex $F(1,146)=4.6$, $p=0.03$.**
all	genotype	**age $F(6,152)=3.6$, $p=0.003$** **genotype $F(1,152)=5.9$, 0.02**

Supplementary Table 5. Pyramidal CA1 pAkt/tAkt
2-factor ANOVA (significant in **bold**)

	comparison	subtest
3xTg-AD	male AM versus PM	**age F(6,27)=3.6, p=0.01** AM PM F (1, 27) = 0.1, n.s.
	female AM versus PM (minus 16, 20 mo.)	**age F(4, 20)=3.0, p=0.04** **AM PM F(1, 20)=20, p=0.0002**
	AM male versus female	age F(6, 28)=1.5, n.s. sex F(1, 28)=0.1, n.s.
	PM male versus female	**age F(6, 27)=5.3, p=0.001** sex F(1, 27)=4.0, p=0.06
	AM Young, middle, old	**age F(2,45)=4.1, p=0.02**
female	AM nTg versus 3xTg-AD (minus 16, 20 mo.)	**age F(4,20)=4.9, p=0.006** **genotype F(1,20)=9.0, p=0.007**
	PM nTg versus 3xTg-AD	age F(6,25)=1.7, n.s. **genotype F(1,25)=18, p=0.0003**
female+male AM	genotype (minus 16, 20 mo.)	age F(4,50)=1.9, n.s. **genotype F(1,50)=5.2, p=0.03**

Supplementary Table 6. Brain GSH
2-factor ANOVA (significant in **bold**)

	comparison	**subtest**
nTg	male AM versus PM	age F(6,28)=1.1, n.s. AM PM F(1,28)=1.0, n.s.
	female AM versus PM	age F(6,28)=0.5, n.s. AM PM F(1,28)=0.2, n.s.
	AM male versus female	age F(6,28)=0.3, n.s. sex F(1,28)=0.1, n.s.
	PM male versus female	age F(6,28)=1.0, n.s. AM PM F(1,28)=0.1, n.s.
3xTg-AD	male AM versus PM	age F(6,28)=1.9, n.s. AM PM F(1,28)=0.8, n.s.
	female AM versus PM	age F(6,28)=1.0, n.s. AM PM F(1,28)=1.7, n.s.
	AM male versus female	ageF(6,28)=1.5, n.s. sex F(1,28)=0.0, n.s.
	PM male versus female	ageF(6,28)=1.5, n.s. sex F(1,28)=0.2, n.s.
male	AM nTg versus 3xTg-AD	age F(6,28)=1.2, n.s. genotype F(1,28)=0.0, n.s.
	PM nTg versus 3xTg-AD	age F(6,28)=1.4, n.s. genotype F(1,28)=2.9, n.s.
female	AM nTg versus 3xTg-AD	age F(6,28)=0.5, n.s. genotype F(1,28)=0.0, n.s.
	PM nTg versus 3xTg-AD	age F(6,28)=0.9, n.s. genotype F(1,28)=2.8, n.s.
all	AM PM	**age F(6,154) = 3.6, p=0.0025** AM PM F(1,154) = 0.1, n.s.
all	male female	**age F(6,154)=3.5, p=0.003** sex F(1,154)=0.1, n.s.
all	genotype	**age F(6,154)=3.6, p=0.002** **genotype F(1,154)=4.0, p=0.05**