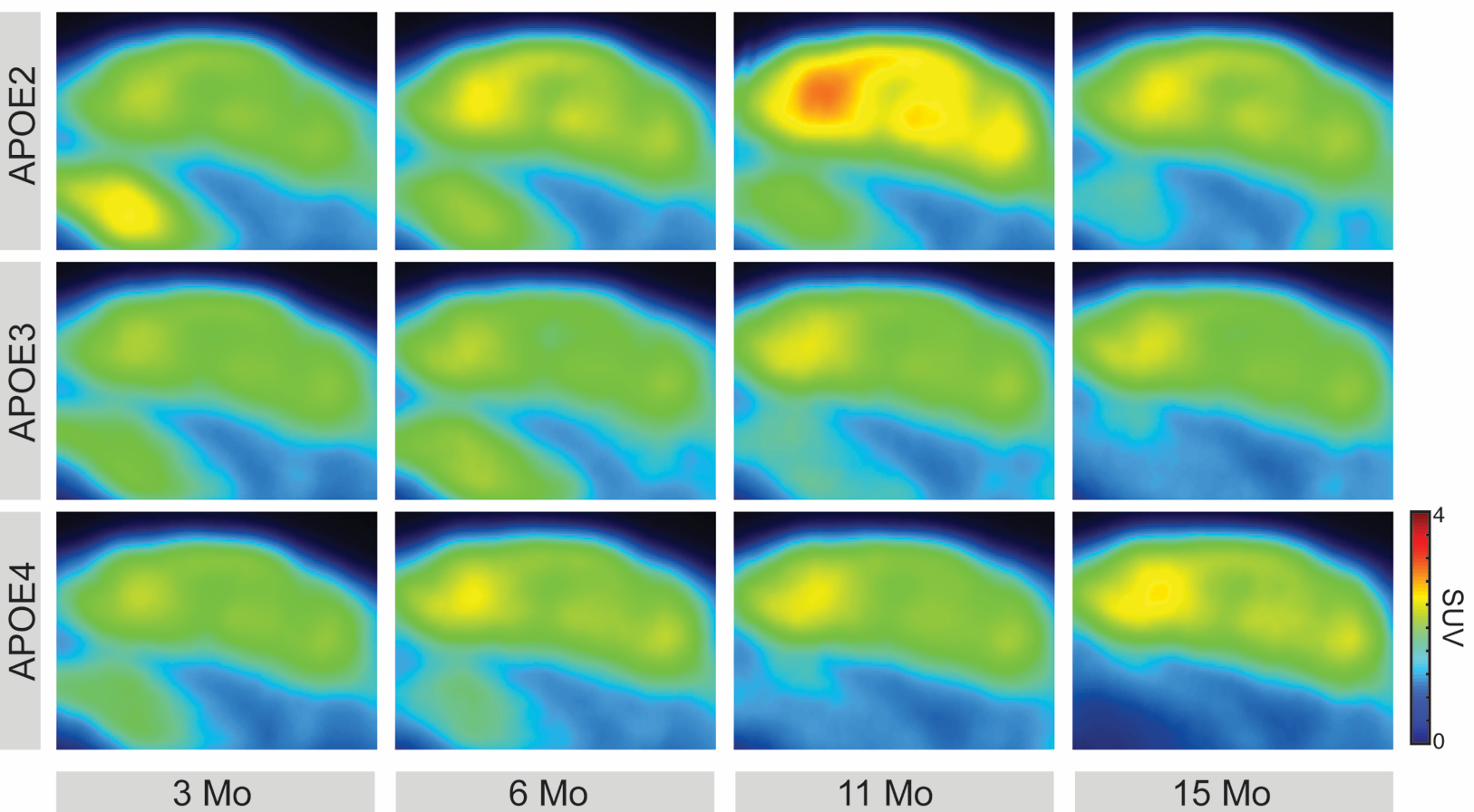
**Supplementary Figure 1.** Average sagittal SUV PET images of [18F]FDG uptake in 3, 6, 11, and 15 months old APOE2/3/4 TR mice.



**Supplementary Table 1.** Animal weight (g), mean ± SD.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **3 months** | **6 months** | **11 months** | **15 months** |
| APOE2 | 19.7 ± 1.4 | 23.2 ± 1.5 | 27.5 ± 2.4 | 27.8 ± 1.6 |
| APOE3 | 20.5 ± 1.0 | 24.6 ± 1.4 | 30.8 ± 3.1 | 30.1 ± 2.4 |
| APOE4 | 20.2 ± 1.0 | 24.0 ± 1.5 | 27.2 ± 1.1 | 27.3 ± 2.0 |

**Supplementary Table 2.** Injected radioactivity (MBq), mean ± SD.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **3 months** | **6 months** | **11 months** | **15 months** |
| APOE2 | 12.2 ± 1.3 | 12.3 ± 1.3 | 13.8 ± 1.2 | 13.0 ± 0.9 |
| APOE3 | 12.2 ± 0.9 | 13.4 ± 1.0 | 14.7 ± 3.7 | 13.0 ± 1.1 |
| APOE4 | 12.1 ± 1.2 | 12.7 ± 1.2 | 12.9 ± 0.9 | 13.0 ± 1.5 |

**Supplementary Table 3.** Coefficient estimates in the LME model.

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Estimate** | **Std. Error** | **p-value** |
| **(Intercept)** | 1.406 | 0.239 | <0.001 |
| **APOE2** | 0.153 | 0.096 | 0.111 |
| **Time 6 months** | -0.059 | 0.069 | 0.391 |
| **Time 11 months** | 0.041 | 0.118 | 0.726 |
| **Time 15 months** | -0.122 | 0.11 | 0.267 |
| **APOE4** | 0.045 | 0.096 | 0.639 |
| **ROI Cingulate Cortex** | 0.604 | 0.038 | <0.001 |
| **ROI Cortex** | 0.251 | 0.038 | <0.001 |
| **ROI Harderian Glands** | 1.594 | 0.038 | <0.001 |
| **ROI Hippocampus** | 0.383 | 0.038 | <0.001 |
| **ROI Whole BRAIN** | 0.288 | 0.038 | <0.001 |
| **Weight** | 0.022 | 0.01 | 0.025 |
| **Injected Radioactivity** | -0.04 | 0.008 | <0.001 |
| **APOE2: Time 6 months** | 0.185 | 0.077 | 0.017 |
| **APOE2: Time 11 months** | 0.505 | 0.081 | <0.001 |
| **APOE2: Time 15 months** | 0.171 | 0.078 | 0.029 |
| **APOE4: Time 6 months** | 0.11 | 0.077 | 0.151 |
| **APOE4: Time 11 months** | -0.006 | 0.085 | 0.948 |
| **APOE4: Time 15 months** | 0.239 | 0.081 | 0.003 |

**Supplementary Table 4.** Predicted means (pm) and standard errors (SE) of the fitted LME model with weight = 25g and injected radioactivity = 13 MBq.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Region** | **Time (months)** | **APOE2** | | | **APOE3** | | **APOE4** | | **p-value APOE2 versus APOE3** | **p-value APOE4 versus APOE3** |
| **pm** | **SE** | **pm** | | **SE** | **pm** | **SE** |
| **Cerebellum** | 3 | 1.36 | 0.15 | 1.43 | | 0.13 | 1.38 | 0.14 | 0.2814 | 0.3994 |
| **Cerebellum** | 6 | 1.48 | 0.06 | 1.60 | | 0.05 | 1.59 | 0.05 | 0.1519 | 0.8795 |
| **Cerebellum** | 11 | 1.87 | 0.10 | 1.52 | | 0.15 | 1.54 | 0.09 | 0.0172 | 0.9124 |
| **Cerebellum** | 15 | 1.48 | 0.09 | 1.35 | | 0.13 | 1.57 | 0.09 | 0.2323 | 0.0562 |
| **Cingulate Cortex** | 3 | 2.10 | 0.34 | 1.99 | | 0.29 | 2.07 | 0.31 | 0.4851 | 0.6028 |
| **Cingulate Cortex** | 6 | 2.49 | 0.13 | 1.89 | | 0.10 | 2.19 | 0.11 | 0.0009 | 0.0502 |
| **Cingulate Cortex** | 11 | 2.93 | 0.15 | 1.96 | | 0.23 | 2.02 | 0.14 | 0.0001 | 0.7717 |
| **Cingulate Cortex** | 15 | 2.18 | 0.19 | 1.68 | | 0.27 | 2.20 | 0.18 | 0.0362 | 0.0370 |
| **Cortex** | 3 | 1.83 | 0.22 | 1.72 | | 0.19 | 1.74 | 0.20 | 0.2897 | 0.8250 |
| **Cortex** | 6 | 2.04 | 0.08 | 1.69 | | 0.07 | 1.85 | 0.07 | 0.0031 | 0.1196 |
| **Cortex** | 11 | 2.40 | 0.12 | 1.68 | | 0.18 | 1.67 | 0.11 | 0.0001 | 0.9552 |
| **Cortex** | 15 | 1.79 | 0.13 | 1.45 | | 0.19 | 1.80 | 0.12 | 0.0408 | 0.0452 |
| **Harderian Glands** | 3 | 4.16 | 0.40 | 3.45 | | 0.35 | 3.66 | 0.37 | 0.0011 | 0.2855 |
| **Harderian Glands** | 6 | 3.53 | 0.17 | 2.94 | | 0.14 | 3.01 | 0.15 | 0.0111 | 0.7317 |
| **Harderian Glands** | 11 | 3.63 | 0.21 | 2.88 | | 0.33 | 3.20 | 0.20 | 0.0167 | 0.3182 |
| **Harderian Glands** | 15 | 3.38 | 0.24 | 2.82 | | 0.35 | 3.02 | 0.23 | 0.0722 | 0.5218 |
| **Hippocampus** | 3 | 1.92 | 0.28 | 1.86 | | 0.24 | 1.91 | 0.25 | 0.6270 | 0.6799 |
| **Hippocampus** | 6 | 2.18 | 0.10 | 1.78 | | 0.08 | 2.01 | 0.08 | 0.0046 | 0.0627 |
| **Hippocampus** | 11 | 2.55 | 0.13 | 1.78 | | 0.20 | 1.83 | 0.12 | 0.0003 | 0.7979 |
| **Hippocampus** | 15 | 1.93 | 0.15 | 1.54 | | 0.22 | 1.98 | 0.14 | 0.0394 | 0.0271 |
| **Whole Brain** | 3 | 1.91 | 0.20 | 1.84 | | 0.18 | 1.86 | 0.19 | 0.5248 | 0.8323 |
| **Whole Brain** | 6 | 2.04 | 0.08 | 1.75 | | 0.07 | 1.91 | 0.07 | 0.0092 | 0.1083 |
| **Whole Brain** | 11 | 2.36 | 0.12 | 1.72 | | 0.18 | 1.74 | 0.11 | 0.0006 | 0.9403 |
| **Whole Brain** | 15 | 1.80 | 0.13 | 1.50 | | 0.19 | 1.85 | 0.12 | 0.0730 | 0.0419 |