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| **Supplementary Table 1. Quantitative comparisons for unadjusted/adjusted associations of tau PET SUVRs in brain ROIs and CSF t-tau/p-tau with rs242557 variant.** |
|  |  | **non-demented elders (n=90)** |  | **Aβ-positive participants (n=35)** |  | **Aβ-negative participants (n=53)** |  | ***APOE* ε4 carriers (n=29)** |  | ***APOE* ε4 non-carriers (n=61)** |
|  | **unadjusted** |  | **adjusted** |  | **unadjusted** |  | **adjusted** |  | **unadjusted** |  | **adjusted** |  | **unadjusted** |  | **adjusted** |  | **unadjusted** |  | **adjusted** |
|  | **β** | **p** |  | **β** | **p** |  | **β** | **p** |  | **β** | **p** |  | **β** | **p** |  | **β** | **p** |  | **β** | **p** |  | **β** | **p** |  | **β** | **p** |  | **β** | **p** |
| CSF t-tau |  | 2.160  | 0.758  |  | -1.637  | 0.816  |  | 5.156  | 0.728  |  | 3.309  | 0.808  |  | -0.387 | 0.949  |  | -1.003  | 0.872  |  | 1.723  | 0.907  |  | 0.302  | 0.983  |  | 2.292  | 0.777  |  | -1.727  | 0.832  |
| CSF p-tau |  | -3.598 | 0.433  |  | -5.207  | 0.276  |  | -5.65  | 0.603  |  | -7.193  | 0.520  |  | -3.190  | 0.267  |  | -2.614  | 0.392  |  | -9.724 | 0.351  |  | -10.170  | 0.343  |  | -1.103 | 0.827  |  | -2.443  | 0.635  |
| Left hippocampus |  | 0.128  | **0.000\*** |  | 0.111  | **0.001\*** |  | 0.214  | **0.001\*** |  | 0.206  | **0.001\*** |  | 0.091  | 0.014  |  | 0.083  | 0.035  |  | 0.077  | 0.295  |  | 0.040  | 0.536  |  | 0.148  | **0.000\*** |  | 0.140  | **0.000\*** |
| Right hippocampus |  | 0.120  | **0.000\*** |  | 0.103  | **0.001\*** |  | 0.211  | **0.000\*** |  | 0.198  | **0.001\*** |  | 0.083  | 0.015  |  | 0.075  | 0.037  |  | 0.063  | 0.342  |  | 0.035  | 0.616  |  | 0.144  | **0.000\*** |  | 0.134  | **0.000\*** |
| Left entorhinal |  | 0.213  | 0.002  |  | 0.189  | 0.006  |  | 0.330  | 0.006  |  | 0.314  | 0.015  |  | 0.164  | 0.042  |  | 0.151  | 0.075  |  | 0.174  | 0.147  |  | 0.154  | 0.176  |  | 0.226  | 0.008  |  | 0.203  | 0.021  |
| Right entorhinal |  | 0.110  | 0.170  |  | 0.090  | 0.248  |  | 0.012  | 0.925  |  | 0.022  | 0.875  |  | 0.152  | 0.111  |  | 0.147  | 0.132  |  | 0.066  | 0.692  |  | 0.014  | 0.921  |  | 0.122  | 0.167  |  | 0.108  | 0.232  |
| Left parahippocampus |  | 0.141  | 0.007  |  | 0.117  | 0.022  |  | 0.220  | 0.059  |  | 0.179  | 0.146  |  | 0.091  | 0.005  |  | 0.100  | 0.004  |  | 0.093  | 0.350  |  | 0.027  | 0.783  |  | 0.158  | 0.009  |  | 0.149  | 0.018  |
| Right parahippocampus |  | 0.122  | 0.027  |  | 0.099  | 0.071  |  | 0.158  | 0.210  |  | 0.100  | 0.458  |  | 0.088  | 0.023  |  | 0.099  | 0.017  |  | 0.028  | 0.751  |  | -0.021  | 0.825  |  | 0.160  | 0.020  |  | 0.143  | 0.047  |
| Left pallidum |  | 0.024  | 0.661  |  | 0.019  | 0.753  |  | 0.083  | 0.162  |  | 0.073  | 0.237  |  | -0.043  | 0.585  |  | -0.067  | 0.431  |  | 0.087  | 0.432  |  | 0.102  | 0.409  |  | -0.008  | 0.905  |  | -0.026  | 0.696  |
| Right pallidum |  | -0.006  | 0.895  |  | -0.008  | 0.881  |  | 0.049  | 0.388  |  | 0.052  | 0.374  |  | -0.063  | 0.370  |  | -0.082  | 0.282  |  | 0.058  | 0.495  |  | 0.080  | 0.398  |  | -0.036  | 0.558  |  | -0.050  | 0.434  |
| Left caudate |  | 0.017  | 0.655  |  | -0.004  | 0.927  |  | 0.037  | 0.564  |  | 0.028  | 0.659  |  | -0.003  | 0.948  |  | -0.016  | 0.756  |  | -0.011  | 0.867  |  | -0.057  | 0.354  |  | 0.027  | 0.553  |  | 0.006  | 0.900  |
| Right caudate |  | 0.063  | 0.072  |  | 0.048  | 0.191  |  | 0.119  | 0.065  |  | 0.107  | 0.120  |  | 0.035  | 0.421  |  | 0.032  | 0.488  |  | 0.074  | 0.260  |  | 0.047  | 0.444  |  | 0.058  | 0.174  |  | 0.036  | 0.415  |
| Left putamen |  | 0.035  | 0.291  |  | 0.019  | 0.583  |  | 0.085  | 0.197  |  | 0.070  | 0.286  |  | 0.002  | 0.968  |  | -0.007  | 0.867  |  | 0.053  | 0.369  |  | 0.014  | 0.796  |  | 0.025  | 0.540  |  | 0.010  | 0.814  |
| Right putamen |  | 0.032  | 0.369  |  | 0.013  | 0.711  |  | 0.090  | 0.159  |  | 0.073  | 0.246  |  | -0.004  | 0.930  |  | -0.011  | 0.818  |  | 0.051  | 0.453  |  | 0.010  | 0.877  |  | 0.020  | 0.632  |  | 0.005  | 0.902  |
| Left thalamus |  | 0.023  | 0.132  |  | 0.027  | 0.828  |  | 0.035  | 0.202  |  | 0.014  | 0.635  |  | 0.011  | 0.558  |  | -0.010  | 0.679  |  | 0.000  | 0.994  |  | -0.012  | 0.704  |  | 0.033  | 0.102  |  | 0.005  | 0.835  |
| Right thalamus |  | -0.001  | 0.971  |  | 0.004  | 0.259  |  | 0.011  | 0.737  |  | 0.004  | 0.897  |  | -0.010  | 0.679  |  | 0.021  | 0.408  |  | -0.007  | 0.828  |  | 0.001  | 0.977  |  | 0.000  | 0.998  |  | 0.025  | 0.320  |
| Brainstem |  | 0.020  | 0.294  |  | 0.022  | 0.080  |  | 0.009  | 0.788  |  | 0.033  | 0.198  |  | 0.021  | 0.408  |  | 0.013  | 0.500  |  | 0.007  | 0.803  |  | 0.001  | 0.968  |  | 0.024  | 0.319  |  | 0.035  | 0.077  |
| Left superior temporal cortex |  | 0.099  | 0.004  |  | 0.077  | 0.028  |  | 0.170  | 0.038  |  | 0.127  | 0.126  |  | 0.065  | 0.010  |  | 0.065  | 0.016  |  | 0.032  | 0.454  |  | -0.002  | 0.954  |  | 0.131  | 0.005  |  | 0.107  | 0.025  |
| Right superior temporal cortex |  | 0.059  | 0.050  |  | 0.038  | 0.216  |  | 0.096  | 0.169  |  | 0.063  | 0.367  |  | 0.033  | 0.202  |  | 0.030  | 0.285  |  | 0.073  | 0.113  |  | 0.042  | 0.366  |  | 0.051  | 0.193  |  | 0.027  | 0.502  |
| Left inferior temporal cortex |  | 0.119  | 0.074  |  | 0.077  | 0.259  |  | 0.206  | 0.227  |  | 0.127  | 0.476  |  | 0.075  | 0.025  |  | 0.073  | 0.041  |  | 0.019  | 0.838  |  | -0.040  | 0.639  |  | 0.166  | 0.062  |  | 0.119  | 0.192  |
| Right inferior temporal cortex |  | 0.067  | 0.269  |  | 0.022  | 0.714  |  | 0.046  | 0.760  |  | -0.031  | 0.840  |  | 0.067  | 0.043  |  | 0.063  | 0.078  |  | 0.060  | 0.490  |  | -0.009  | 0.908  |  | 0.068  | 0.401  |  | 0.020  | 0.807  |
| Left lateral occipital cortex |  | 0.087  | 0.235  |  | 0.083  | 0.262  |  | 0.068  | 0.722  |  | 0.103  | 0.605  |  | 0.098  | 0.031  |  | 0.108  | 0.026  |  | 0.037  | 0.836  |  | -0.003  | 0.985  |  | 0.106  | 0.128  |  | 0.109  | 0.140  |
| Right lateral occipital cortex |  | 0.133  | 0.047  |  | 0.123  | 0.059  |  | 0.258  | 0.133  |  | 0.302  | 0.061  |  | 0.075  | 0.061  |  | 0.079  | 0.067  |  | 0.246  | 0.179  |  | 0.223  | 0.211  |  | 0.072  | 0.126  |  | 0.065  | 0.194  |
| Left inferior parietal cortex |  | 0.061  | 0.202  |  | 0.029  | 0.553  |  | 0.061  | 0.604  |  | 0.005  | 0.966  |  | 0.056  | 0.067  |  | 0.056  | 0.090  |  | 0.010  | 0.919  |  | -0.091  | 0.321  |  | 0.081  | 0.124  |  | 0.069  | 0.210  |
| Right inferior parietal cortex |  | 0.055  | 0.283  |  | 0.022  | 0.676  |  | 0.058  | 0.655  |  | -0.011  | 0.934  |  | 0.041  | 0.160  |  | 0.048  | 0.132  |  | 0.081  | 0.390  |  | -0.007  | 0.935  |  | 0.039  | 0.527  |  | 0.017  | 0.789  |
| Left superior frontal cortex |  | 0.043  | 0.084  |  | 0.032  | 0.204  |  | 0.016  | 0.762  |  | -0.001  | 0.992  |  | 0.049  | 0.061  |  | 0.050  | 0.074  |  | 0.017  | 0.714  |  | -0.008  | 0.856  |  | 0.054  | 0.073  |  | 0.043  | 0.164  |
| Right superior frontal cortex | 　 | 0.035  | 0.304  | 　 | 0.019  | 0.591  | 　 | -0.025  | 0.762  | 　 | -0.061  | 0.497  | 　 | 0.059  | 0.032  | 　 | 0.062  | 0.035  | 　 | 0.005  | 0.920  | 　 | -0.023  | 0.653  | 　 | 0.047  | 0.291  | 　 | 0.027  | 0.560  |

Unadjusted and adjusted data (β and p values) are listed in the table.

Note: Two subjects lack of CSF and PET Aβ data were excluded in the analysis grouped by presence or absence of Aβ pathology.

Aβ = amyloid-beta, APOE = Apolipoprotein E.

\* Bonferroni corrected p value < 0.05.