

Table S1 – Demographic, clinical and genetic data of the MCI subgroups based on a CSF biomarker profile that included the A $\beta$ 42/40 ratio, t-Tau and p-Ta.

|                        | Low-AD likelihood | High-AD likelihood               | IAP   | SNAP   |
|------------------------|-------------------|----------------------------------|---|--|
| N (%)                  | 56 (28.4%)        | 92 (46.7%)                       | 24 (12.2%)  | 25 (12.7%)   |
| Gender (M/F)           | 18/38             | 33/59                            | 7/17  | 10/15  |
| Age (years)            | 61.3 $\pm$ 9.9    | 69.5 $\pm$ 8.2 <sup>***</sup>    | 69.2 $\pm$ 7.6 <sup>**</sup>                                | 69.3 $\pm$ 8.7 <sup>**</sup>                                 |
| Age onset (years)      | 58.1 $\pm$ 10.1   | 67.0 $\pm$ 8.3 <sup>***</sup>    | 63.9 $\pm$ 8.3  | 66.2 $\pm$ 6.1   |
| Education (years)      | 6.9 $\pm$ 3.8     | 5.8 $\pm$ 3.9                    | 4.5 $\pm$ 2.2   | 6.8 $\pm$ 4.9  |
| MMSE                   | 27.6 $\pm$ 2.5    | 24.8 $\pm$ 4.1 <sup>***</sup>    | 25.5 $\pm$ 5.8  | 26.7 $\pm$ 2.8   |
| MoCA                   | 21.0 $\pm$ 4.5    | 16.5 $\pm$ 5.4 <sup>***</sup>    | 15.8 $\pm$ 6.9 <sup>**</sup>                                | 17.8 $\pm$ 4.4   |
| ADAS-Cog               | 8.4 $\pm$ 4.6     | 13.8 $\pm$ 6.1 <sup>***</sup>    | 12.8 $\pm$ 7.1  | 10.6 $\pm$ 4.9   |
| ApoE- $\epsilon$ 4 (%) | 22.2%             | 51.2% <sup>***</sup>             | 33.3% <sup><math>\gamma</math></sup>                        | 56.5%  |
| A $\beta$ 42 (pg/mL)   | 890 $\pm$ 285     | 539 $\pm$ 213 <sup>***</sup>     | 533 $\pm$ 230 <sup>***,§§§</sup>                            | 928 $\pm$ 418 <sup><math>\gamma\gamma\gamma</math></sup>     |
| A $\beta$ 40 (pg/mL)   | 8357 $\pm$ 3040   | 13112 $\pm$ 5095 <sup>***</sup>  | 11126 $\pm$ 2902 <sup>**</sup>                              | 10234 $\pm$ 3738   |
| A $\beta$ 42/40        | 0.113 $\pm$ 0.037 | 0.042 $\pm$ 0.014 <sup>***</sup> | 0.048 $\pm$ 0.015 <sup>***,§§§</sup>                        | 0.089 $\pm$ 0.018 <sup><math>\gamma\gamma\gamma</math></sup> |
| t-Tau (pg/mL)          | 161 $\pm$ 47      | 549 $\pm$ 276 <sup>***</sup>     | 180 $\pm$ 53 <sup><math>\gamma\gamma\gamma</math>,§§§</sup> | 407 $\pm$ 176 <sup>***</sup>                                 |
| p-Tau (pg/mL)          | 29 $\pm$ 8        | 69 $\pm$ 29 <sup>***</sup>       | 31 $\pm$ 10 <sup><math>\gamma\gamma\gamma</math>,§§§</sup>  | 49 $\pm$ 14 <sup>***</sup>                                   |
| Follow-up time (years) | 3.9 $\pm$ 3.4     | 3.7 $\pm$ 2.3                    | 4.5 $\pm$ 3.8   | 4.4 $\pm$ 3.4  |

Data are expressed as mean  $\pm$  S.D, except for APOE that is expressed as percentage of  $\epsilon$ 4 carries. M – male; F – female; IAP – Isolated Amyloid Pathology; SNAP – Suspected Non-Alzheimer Pathology. MMSE and MoCA: higher scores correspond to better performance; ADAS-Cog: lower scores correspond to better performance. \*P<0.05 vs. low-AD-likelihood. \*\*P<0.005 vs. low-AD-likelihood. \*\*\*P<0.001 vs. low-AD-likelihood.  <sup>$\gamma$</sup> P<0.05 vs. high-AD-likelihood.  <sup>$\gamma\gamma\gamma$</sup>  P<0.001 vs. high-AD-likelihood. <sup>§§§</sup>P<0.001 vs. SNAP.