Enrichment of neurodegenerative microglia signature in brain-derived extracellular vesicles isolated from Alzheimer's disease mouse model

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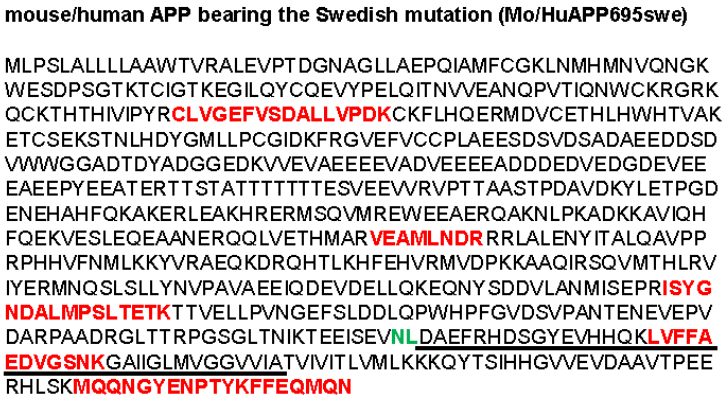
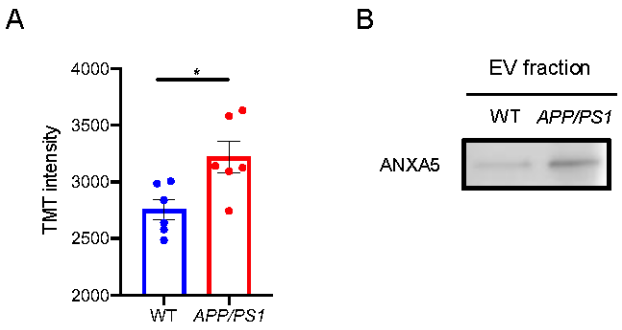
Journal of Proteome Research 2020.

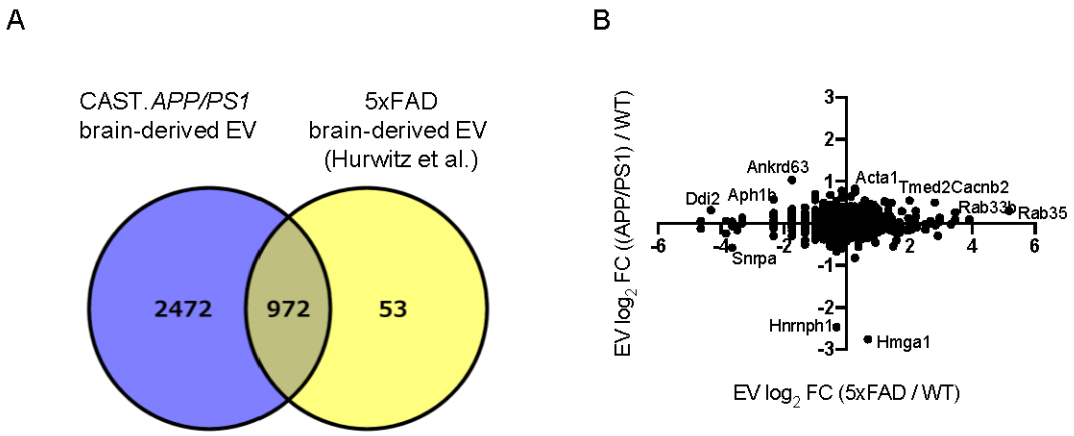
Supplementary Figures and Tables



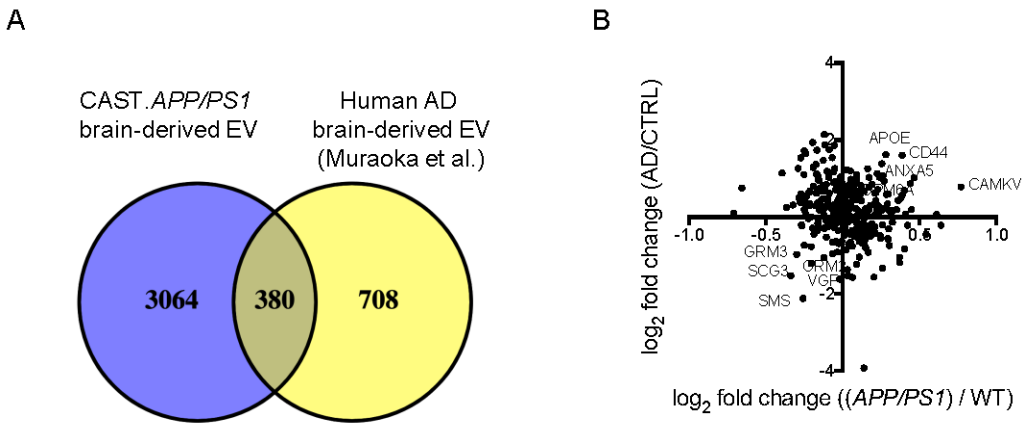
Supplementary Figure S1. Sequence coverage of identified tryptic fragment peptide from APP by LC-MS/MS analysis: Identified peptides show in Red bold. The black line indicates amyloid beta peptide. The Swedish mutations show in Green bold.



Supplementary Figure S2. Assessment of ANXA5 protein by Proteomics and Western blot: **A)** A box plot of TMT-reporter intensity by proteomics. ($-\log_{10}(p\text{-value}) = 1.756$, FC = 1.16). The t.test was calculated by Welch's test. **B)** Validation of proteomic result using Western blot.



Supplementary Figure S3. Comparison of CAST.*APP/PS1* mouse brain-derived EV proteome and 5xFAD mouse brain-derived EV: A) The 5xFAD mouse brain-derived EV proteome were identified 1025 proteins [1]. The 972 proteins were common between CAST.*APP/PS1* mouse brain-derived EV and 5xFAD mouse brain-derived EV proteins. **B)** Scattered plot of CAST.*APP/PS1* mouse brain-derived EV and 5xFAD mouse brain-derived EV proteins.



Supplementary Figure S4. Comparison of CAST.*APP/PS1* mouse brain-derived EV proteome and human AD brain-derived EV proteome: A) The human AD brain-derived EV proteome were identified 1088 proteins [2]. The 380 proteins were common between CAST.*APP/PS1* mouse brain-derived EV and human AD brain-derived EV proteins. **B)** Scattered plot of CAST.*APP/PS1* mouse brain-derived EV and human AD brain-derived EV proteins (rho= -0.1545, p = 0.0061 using two-tailed t-test).

Figure 1C

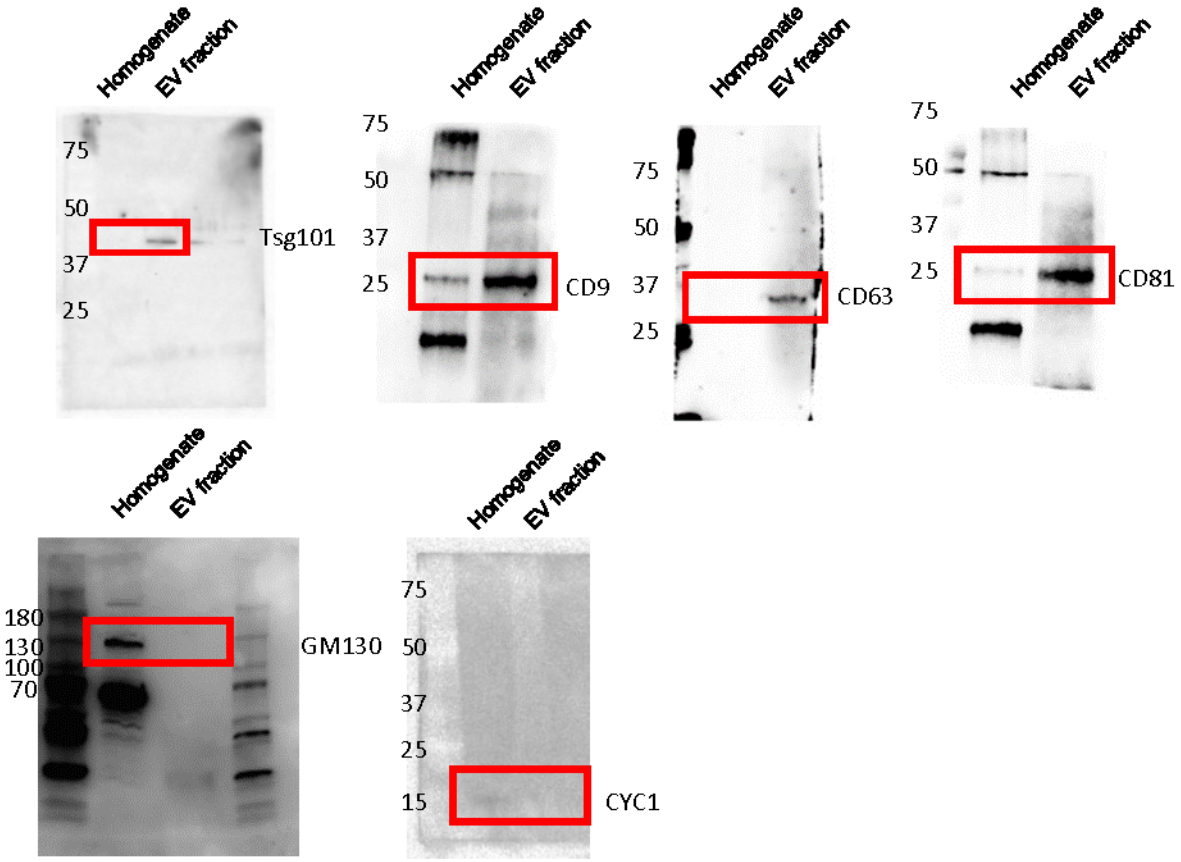


Figure 4F

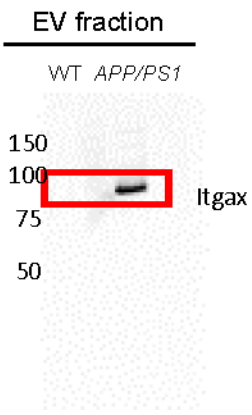
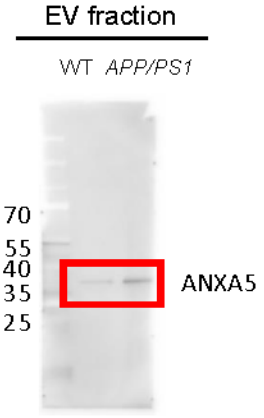


Figure S2



Supplementary Figure S5. Image of the entire membrane for Western Blots

Reference

(1) Hurwitz, S. N.; Sun, L.; Cole, K. Y.; Ford, C. R.; Olcese, J. M.; Meckes, D. G. An optimized method for enrichment of whole brain-derived extracellular vesicles reveals insight into neurodegenerative processes in a mouse model of Alzheimer's disease. *J. Neurosci. Methods* **2018**, *307*, 210–220.

(2) Muraoka, S.; DeLeo, A. M.; Sethi, M. K.; Yukawa-Takamatsu, K.; Yang, Z.; Ko, J.; Hogan, J. D.; Ruan, Z.; You, Y.; Wang, Y.; et al. Proteomic and biological profiling of extracellular vesicles from Alzheimer's disease human brain tissues. *Alzheimers Dement* **2020**, *16* (6), 896–907.