Supplementary figures to:

Traumatic brain injury in the presence of Aβ pathology affects neuronal survival, glial activation and autophagy

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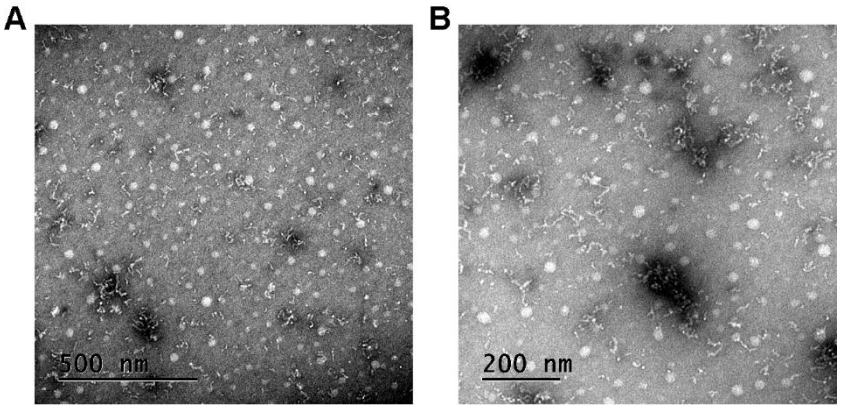
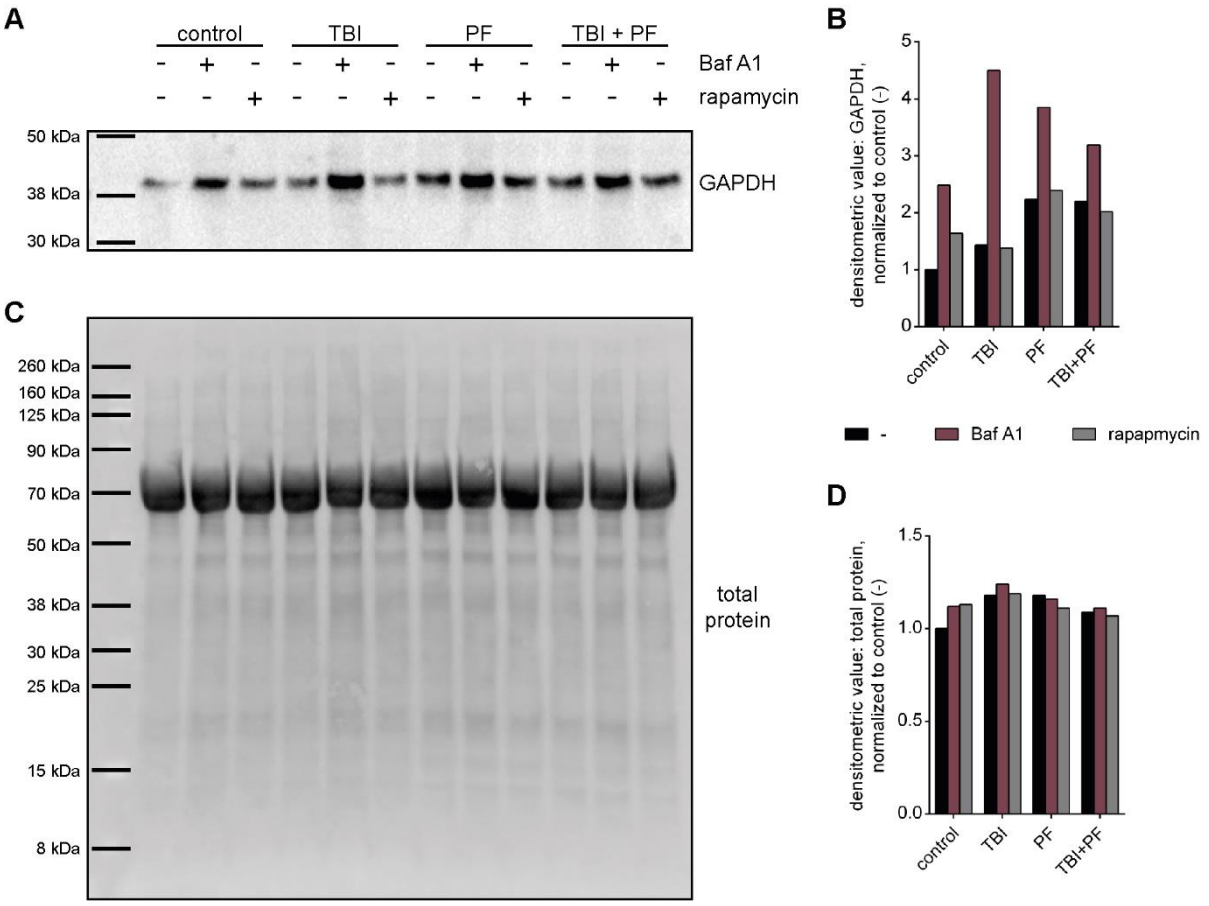
Running title: TBI in the presence of Aβ pathology

Supplementary Figure 1 TEM characterization of $A\beta_{42}$ protofibrils.



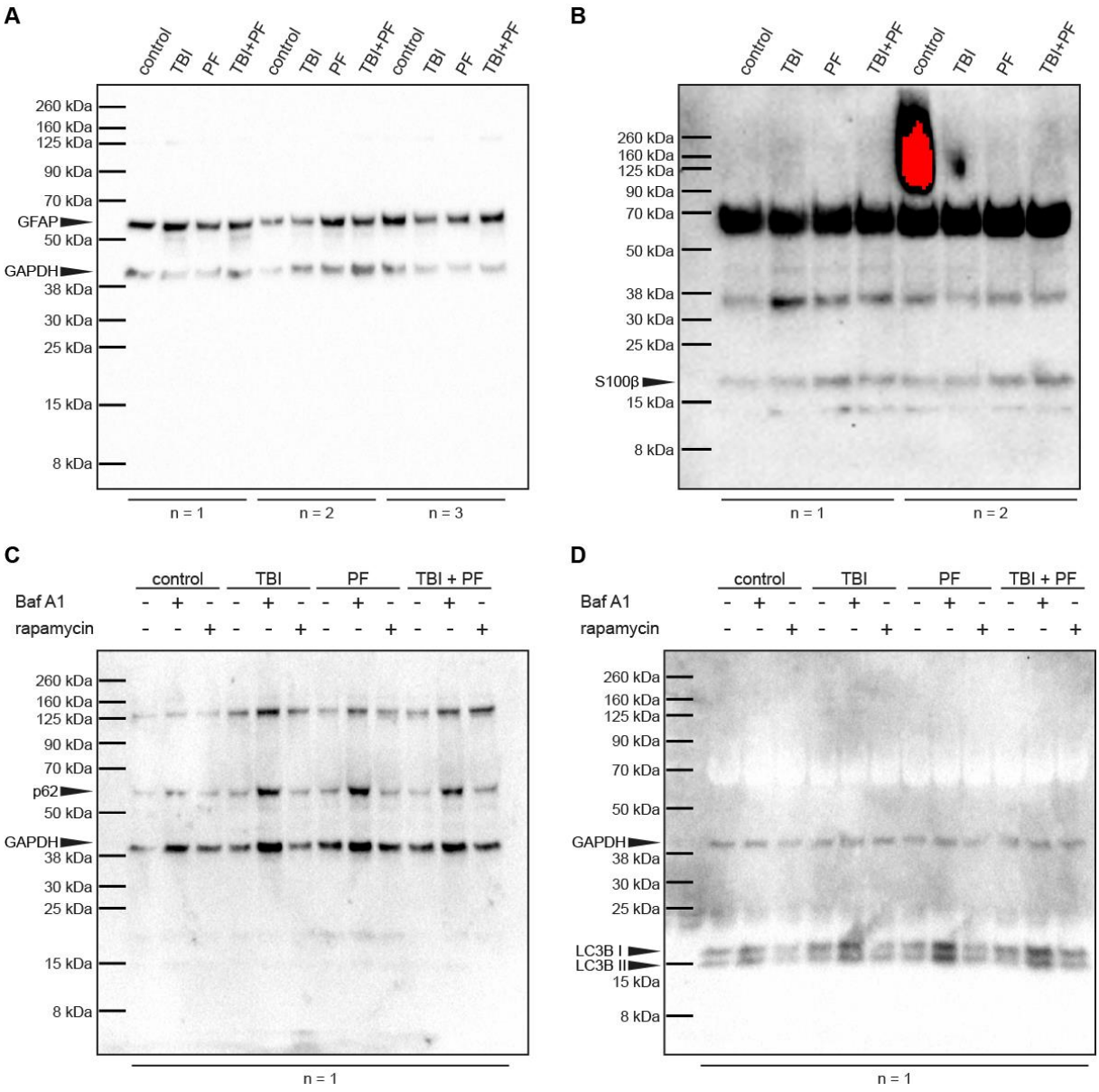
A and B) Aβ protofibril characterization using TEM. Scale bars 500 nm (A) and 200 nm (B). Negative staining of the Aβ protofibrils was performed using the following method: Aβ protofibrils (100 µM) were diluted 1:10 in Milli-Q H_2O and a 5 µl drop of the sample was placed on a formvar/carbon coated 200-mesh copper grid (Ted Pella). After 10 s, the excess solution was removed by blotting with filter paper. The sample was then directly stained with 2% uranyl acetate for 5 s. Excess of uranyl acetate was removed by blotting on filter paper. Dried grids were examined by TEM (Tecnai G2 Spirit) operated at 80kV.

Supplementary Figure 2 Western blot loading assessed by housekeeping gene GAPDH and total protein stain



A) Representative blot (mouse monoclonal GAPDH, clone 1D4, #NB300-221, Novus Biologicals; 1:10000) and **B)** quantification of the detected GAPDH bands. Both, the experimental groups (TBI, PF and TBI+PF) and the use of the autophagy inhibitor Baf A1 (500 nM, 6 h) or inducer rapamycin (200 nM, 24 h), were found to influence the expression level of the housekeeping gene GAPDH and thus unsuitable as loading control and for protein normalization. **C)** Total protein staining of the membrane with No-Stain Protein Labeling Reagent (#A44717, Thermo Fisher) and **D)** its quantification confirmed equal loading when using protein concentrations determined by Pierce BCA Protein Assay kit.

Supplementary Figure 3 Full-length western blots



A) Full length blot of the cropped image shown in Figure 3C, GFAP rabbit polyclonal (#Z0334, Agilent DAKO; 1:10000). **B)** Full length blot of the cropped image shown in Figure 3G, S100b mouse monoclonal (clone SH-B1, #S2532, Sigma-Aldrich; 1:500). **C)** Full length blot of the cropped image shown in Figure 6A, p62 rabbit polyclonal (#NBP1-48320, Novus Biologicals; 1:1000). **D)** Full length blot of the cropped image shown in Figure 6A, LC3B rabbit polyclonal (#NB100-2220, Novus Biologicals; 1:1000). When indicated: GAPDH mouse monoclonal (clone 1D4, #NB300-221, Novus Biologicals; 1:10000).