

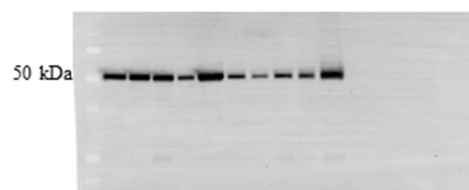
Differential protein expression in diverse brain areas of Parkinson's and Alzheimer's disease patients

AR Esteves^{1,2} & SM Cardoso^{1,2,3*}

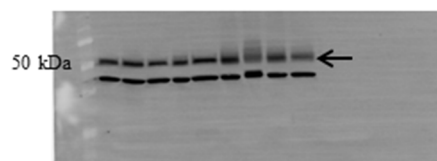
¹CNC–Center for Neuroscience and Cell Biology, ²CIBB-Centre for Innovative Biomedicine and Biotechnology, ³Institute of Cellular and Molecular Biology, Faculty of Medicine, University of Coimbra, Coimbra, Portugal

***Corresponding author:** CNC - Center for Neuroscience and Cell Biology, University of Coimbra, Largo Marquês de Pombal 3004-517 Coimbra, Portugal; Phone: +351 239 820190; Fax: +351-239-822776; E-mail: cardoso.sandra.m@gmail.com

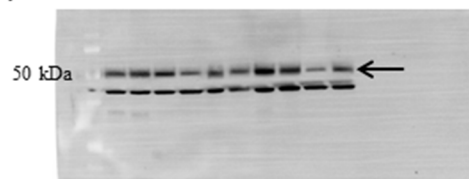
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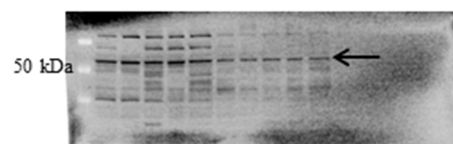
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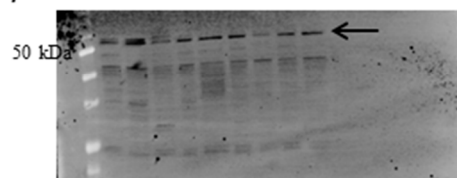
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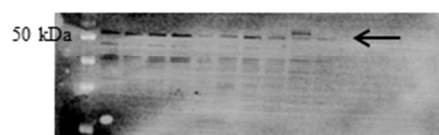
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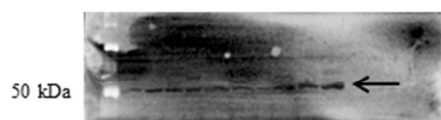
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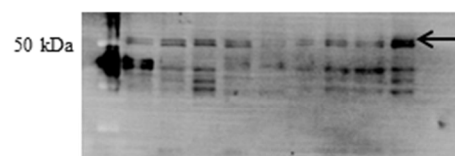
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(g)



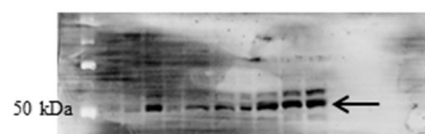
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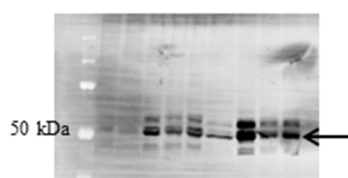
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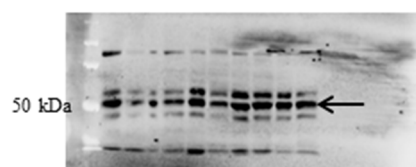
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(k)

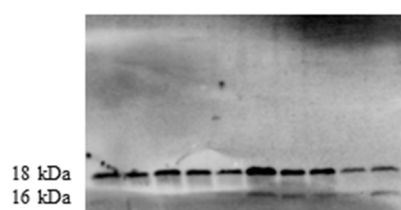


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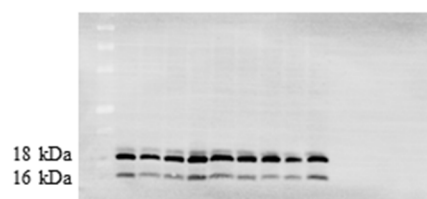


Supplementary Figure 1. (a) Whole representative western blot of PD SNpc acetylated α -tubulin; (b) Whole representative western blot of PD Hippocampus acetylated α -tubulin; (c) Whole representative western blot of PD Cortex acetylated α -tubulin; (d) Whole representative western blot of PD SNpc acetylated-tau; (e) Whole representative western blot of PD Hippocampus acetylated-tau; (f) Whole representative western blot of PD Cortex acetylated-tau; (g) Whole representative western blot of PD SNpc phospho-tau; (h) Whole representative western blot of PD Hippocampus phospho-tau; (i) Whole representative western blot of PD Cortex phospho-tau; (j) Whole representative western blot of PD SNpc Tau; (k) Whole representative western blot of PD Hippocampus Tau; (l) Whole representative western blot of PD Cortex Tau.

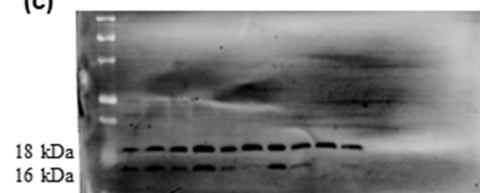
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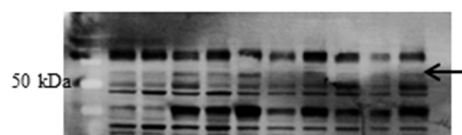
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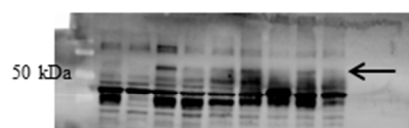
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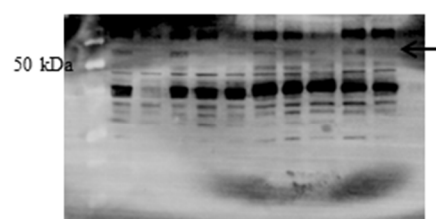
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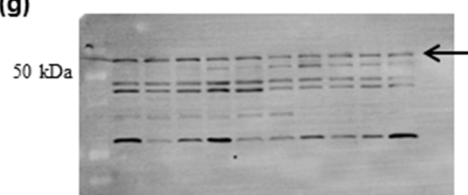
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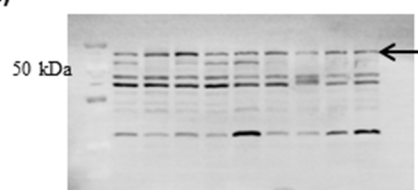
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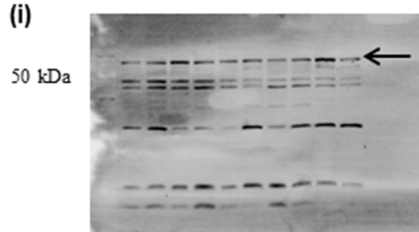
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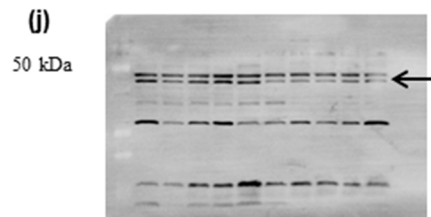
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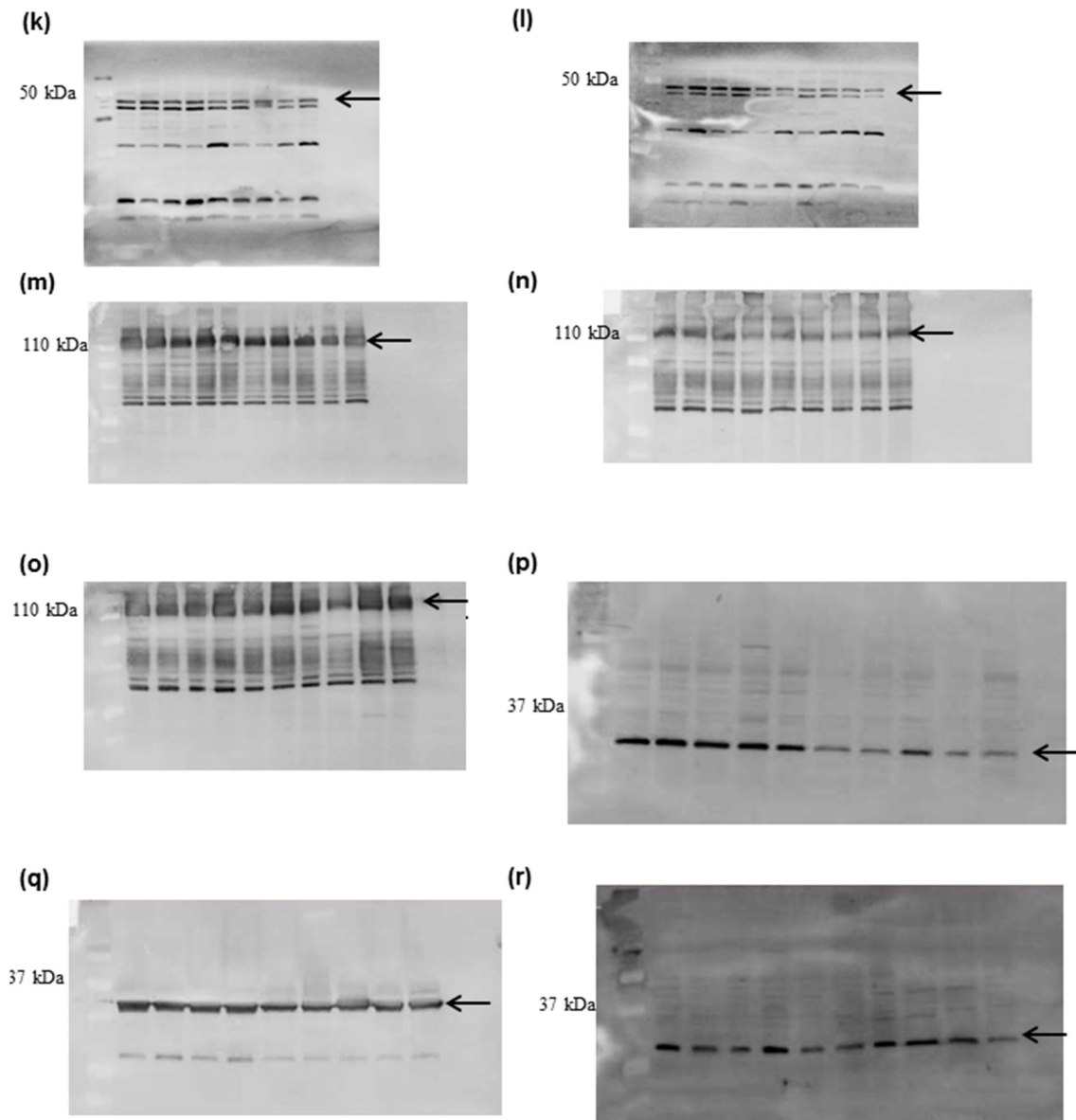


(i)

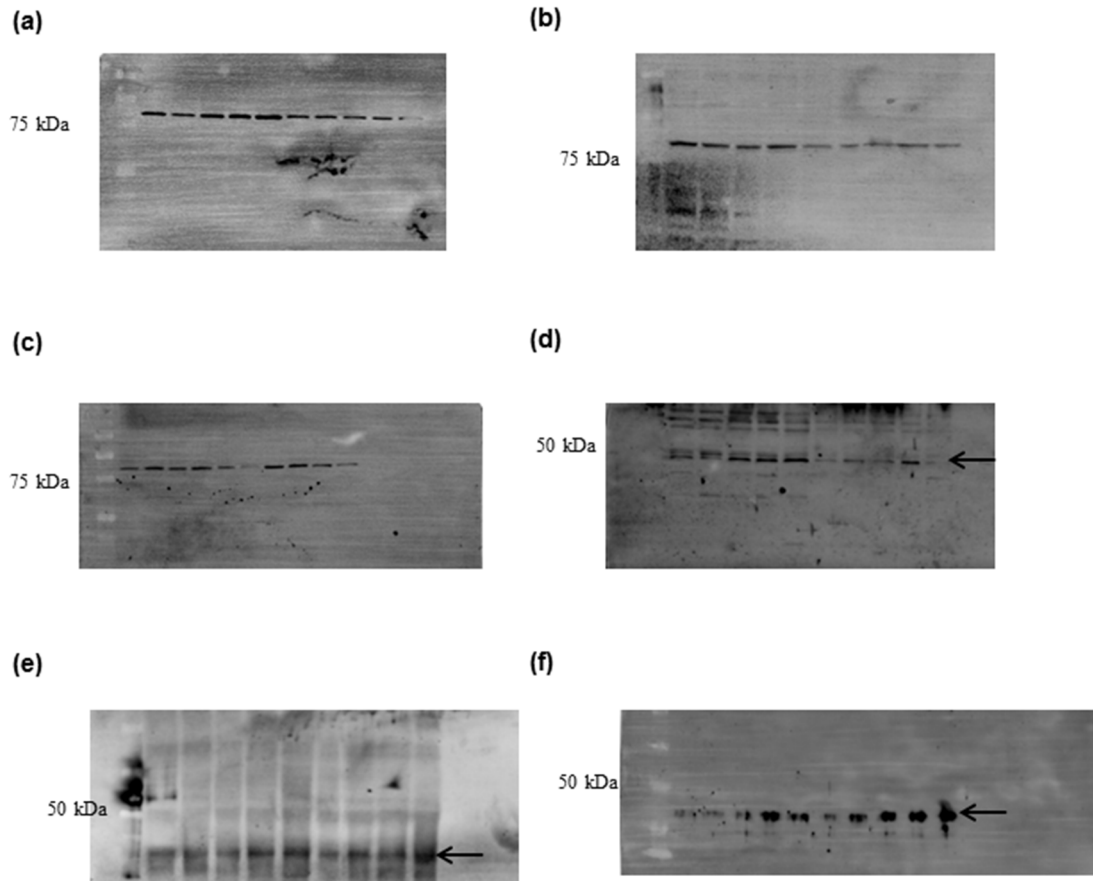


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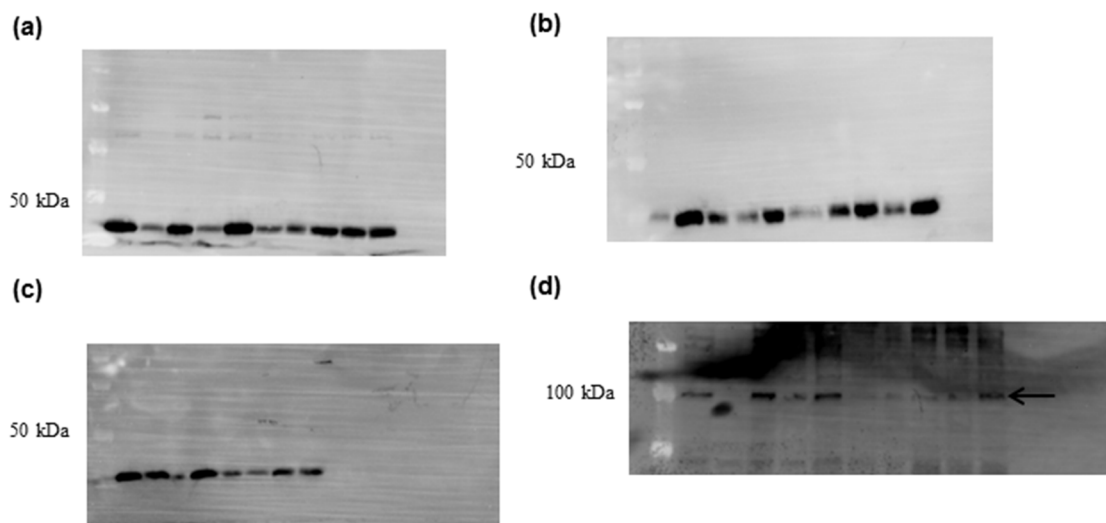


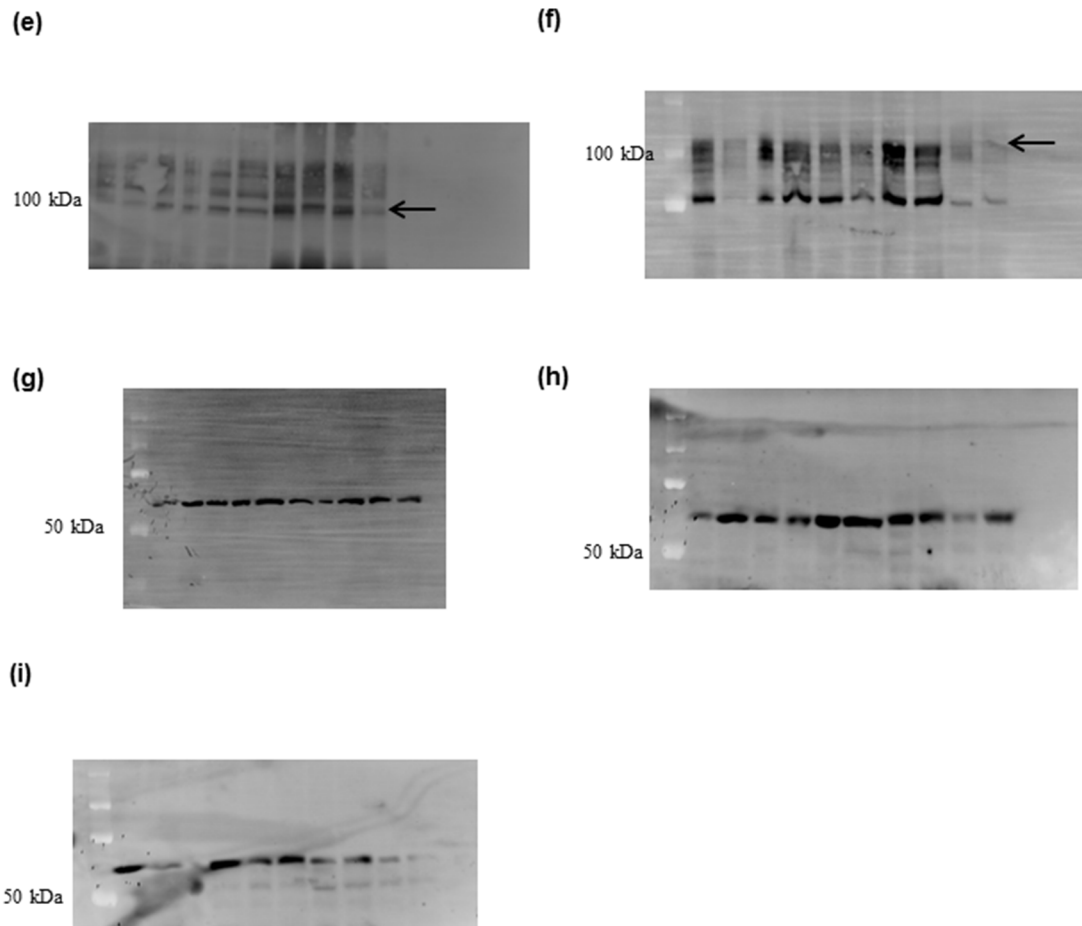


Supplementary Figure 2. (a) Whole representative western blot of PD SNpc LC3; (b) Whole representative western blot of PD Hippocampus LC3; (c) Whole representative western blot of PD Cortex LC3; (d) Whole representative western blot of PD SNpc p62; (e) Whole representative western blot of PD Hippocampus p62; (f) Whole representative western blot of PD Cortex p62; (g) Whole representative western blot of PD SNpc Beclin; (h) Whole representative western blot of PD Hippocampus Beclin; (i) Whole representative western blot of PD Cortex Beclin; (j) Whole representative western blot of PD SNpc Lamp2A; (k) Whole representative western blot of PD Hippocampus Lamp2A; (l) Whole representative western blot of PD Cortex Lamp2A; (m) Whole representative western blot of PD SNpc Lamp1; (n) Whole representative western blot of PD Hippocampus Lamp1; (o) Whole representative western blot of PD Cortex Lamp1; (p) Whole representative western blot of PD SNpc CathepsinD; (q) Whole representative western blot of PD Hippocampus CathepsinD; (r) Whole representative western blot of PD Cortex CathepsinD.

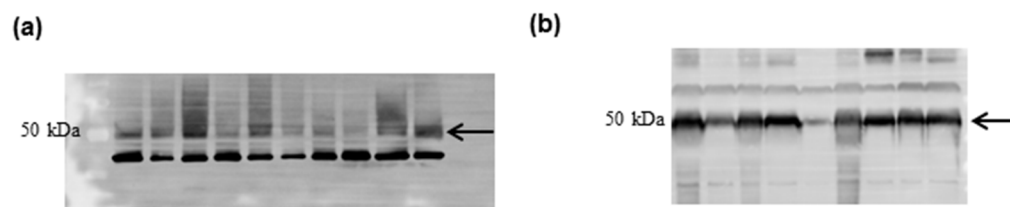


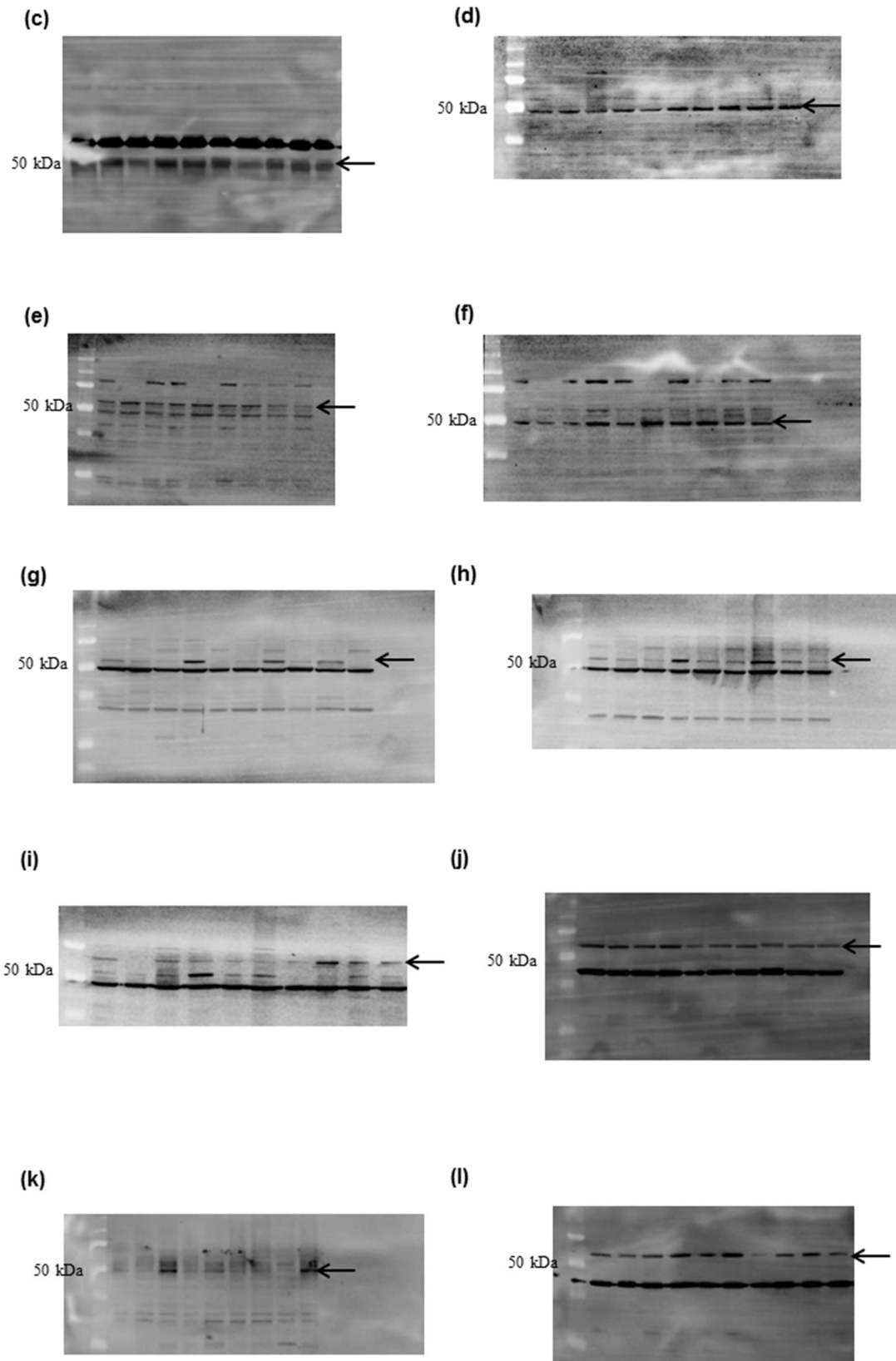
Supplementary Figure 3. (a) Whole representative western blot of PD SNpc GRP78; (b) Whole representative western blot of PD Hippocampus GRP78; (c) Whole representative western blot of PD Cortex GRP78; (d) Whole representative western blot of PD SNpc ATF4; (e) Whole representative western blot of PD Hippocampus ATF4; (f) Whole representative western blot of PD Cortex ATF4.





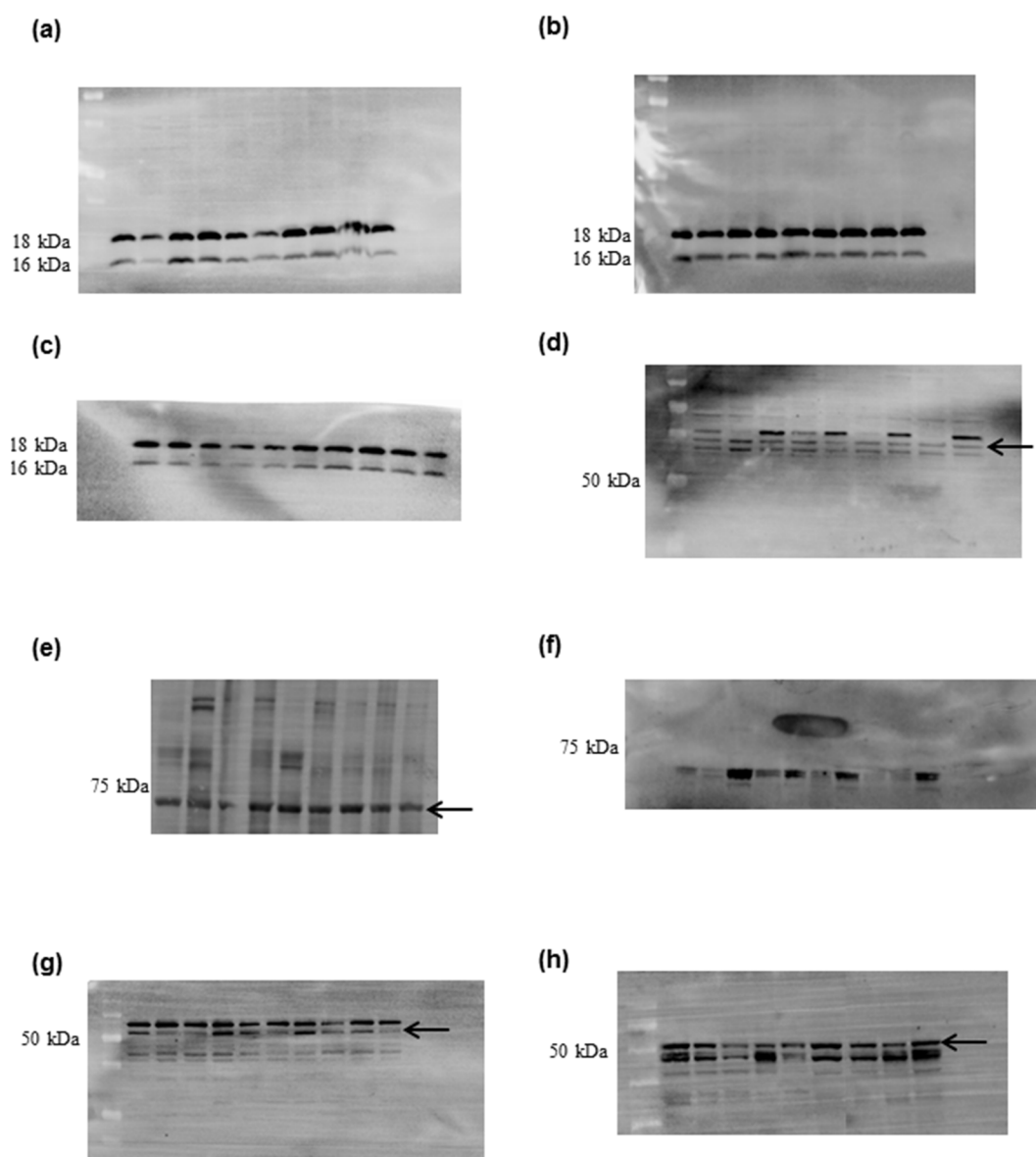
Supplementary Figure 4. (a) Whole representative western blot of PD SNpc Synaptophysin; (b) Whole representative western blot of PD Hippocampus Synaptophysin; (c) Whole representative western blot of PD Cortex Synaptophysin; (d) Whole representative western blot of PD SNpc PSD95; (e) Whole representative western blot of PD Hippocampus PSD95; (f) Whole representative western blot of PD Cortex PSD95; (g) Whole representative western blot of PD SNpc HSP60; (h) Whole representative western blot of PD Hippocampus HSP60; (i) Whole representative western blot of PD Cortex HSP60.

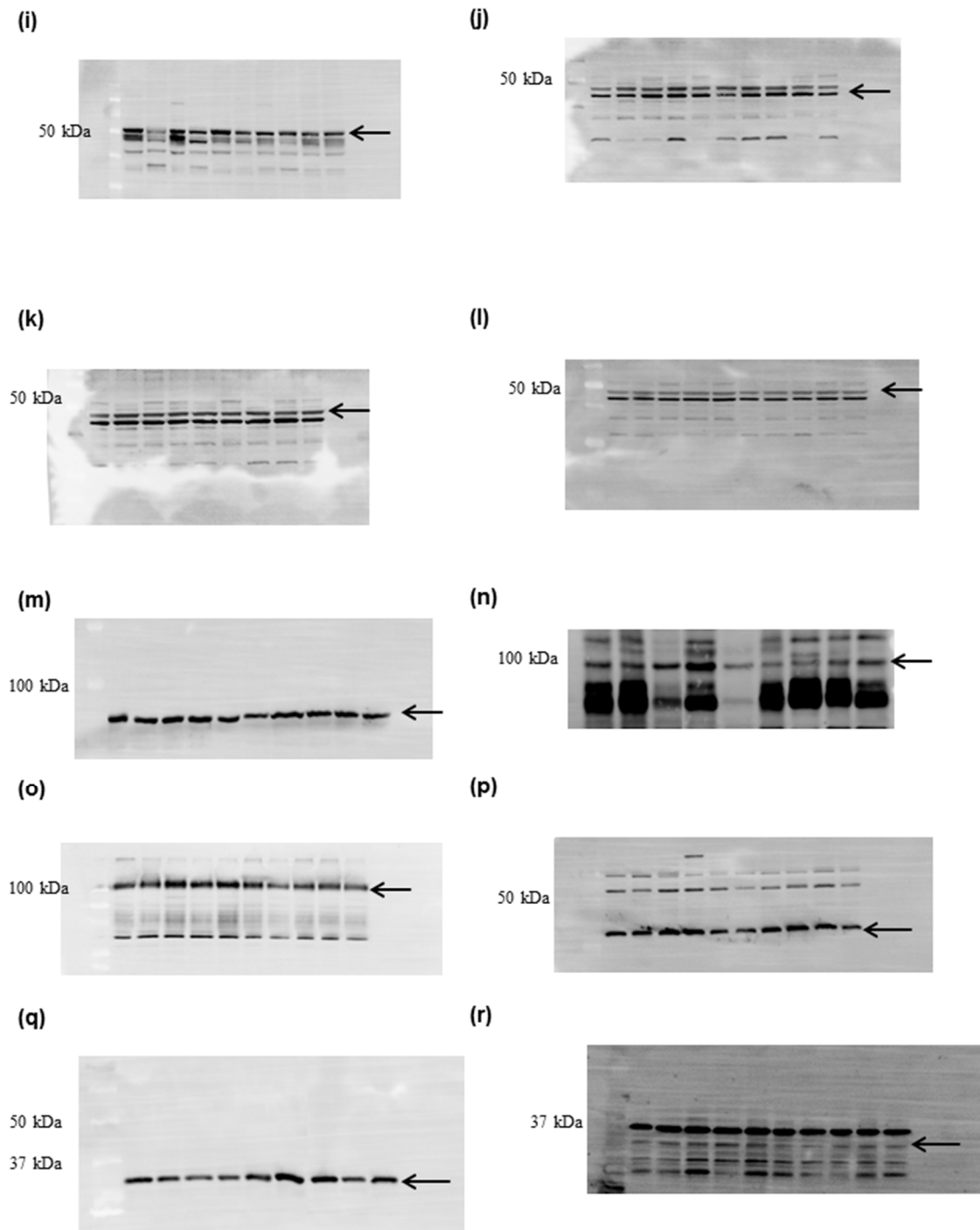




Supplementary Figure 5. (a) Whole representative western blot of AD SNpc acetylated α -tubulin; (b) Whole representative western blot of AD Hippocampus

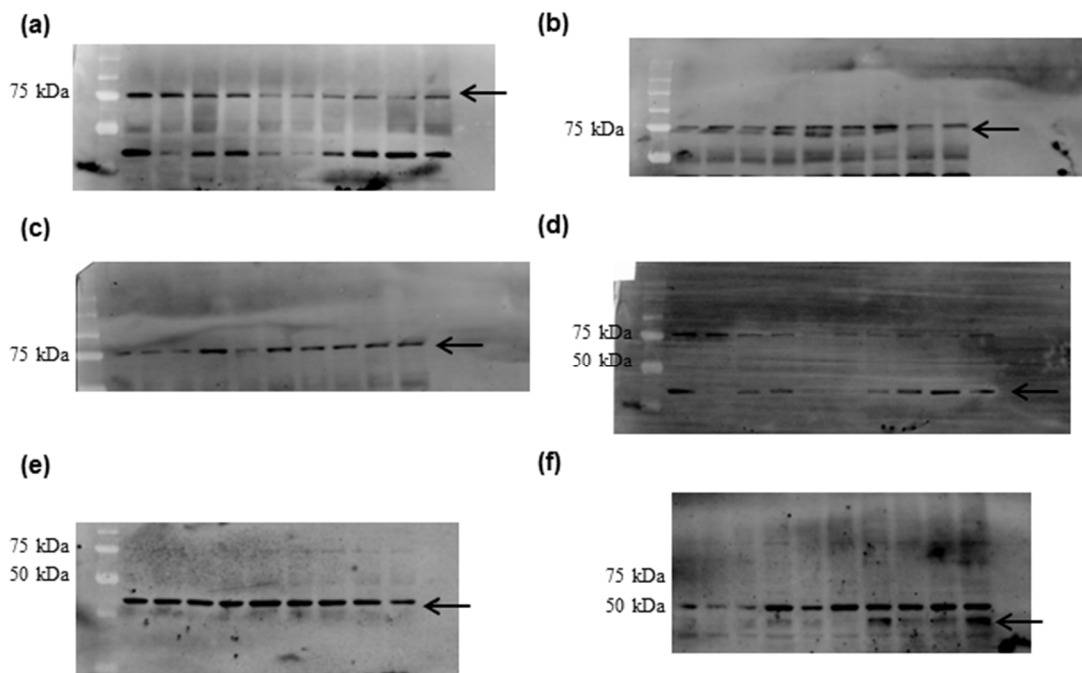
acetylated α -tubulin; (c) Whole representative western blot of AD Cortex acetylated α -tubulin; (d) Whole representative western blot of AD SNpc acetylated-tau; (e) Whole representative western blot of AD Hippocampus acetylated-tau; (f) Whole representative western blot of AD Cortex acetylated-tau; (g) Whole representative western blot of AD SNpc phospho-tau; (h) Whole representative western blot of AD Hippocampus phospho-tau; (i) Whole representative western blot of AD Cortex phospho-tau; (j) Whole representative western blot of AD SNpc Tau; (k) Whole representative western blot of AD Hippocampus Tau; (l) Whole representative western blot of AD Cortex Tau.



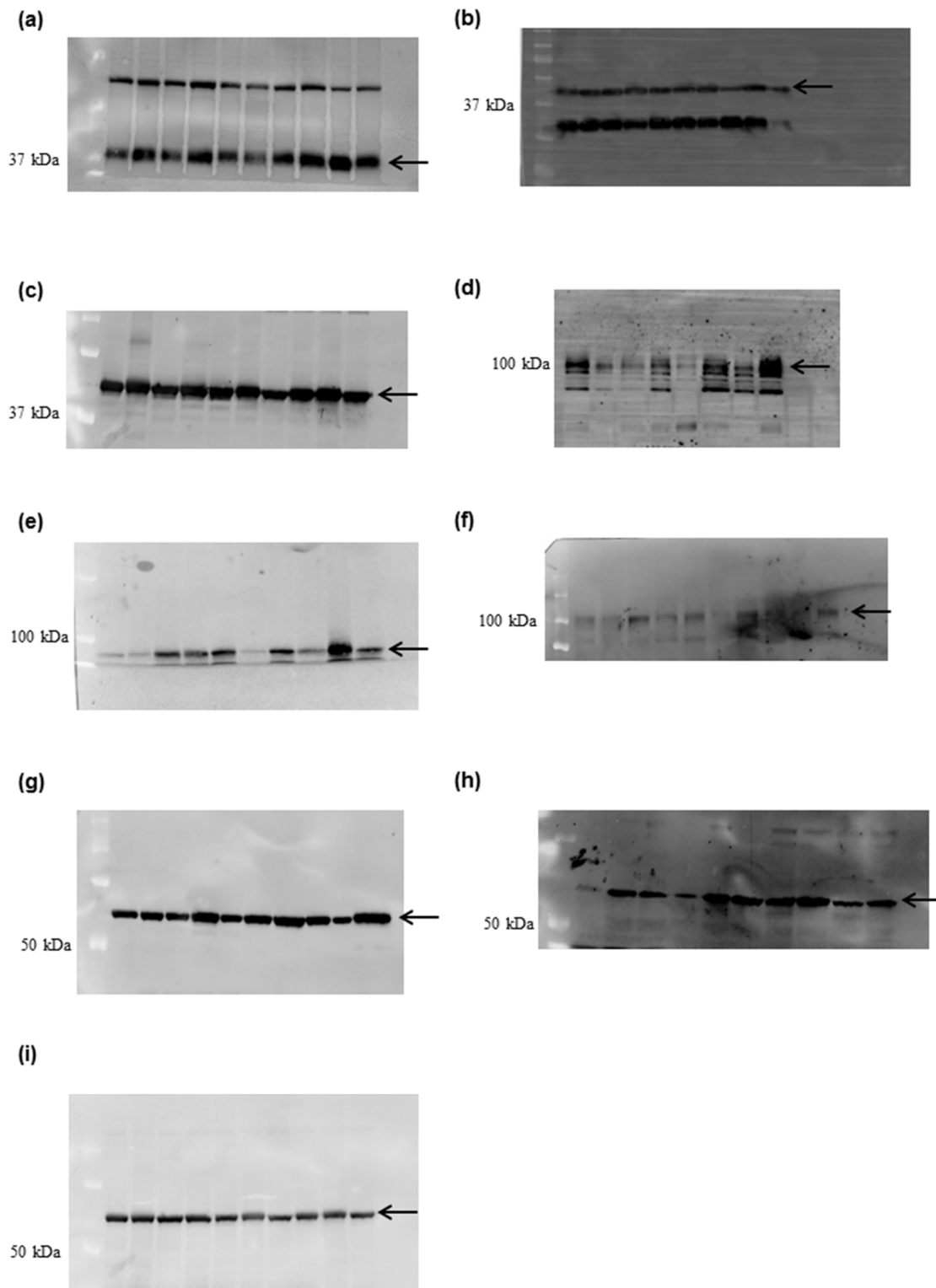


Supplementary Figure 6. (a) Whole representative western blot of AD SNpc LC3; (b) Whole representative western blot of AD Hippocampus LC3; (c) Whole representative western blot of AD Cortex LC3; (d) Whole representative western blot of AD SNpc p62; (e) Whole representative western blot of AD Hippocampus p62; (f) Whole representative western blot of AD Cortex p62; (g) Whole representative western blot of AD SNpc Beclin; (h) Whole representative western blot of AD Hippocampus Beclin; (i)

Whole representative western blot of AD Cortex Beclin; (j) Whole representative western blot of AD SNpc Lamp2A; (k) Whole representative western blot of AD Hippocampus Lamp2A; (l) Whole representative western blot of AD Cortex Lamp2A; (m) Whole representative western blot of AD SNpc Lamp1; (n) Whole representative western blot of AD Hippocampus Lamp1; (o) Whole representative western blot of AD Cortex Lamp1; (p) Whole representative western blot of AD SNpc CathepsinD; (q) Whole representative western blot of AD Hippocampus CathepsinD; (r) Whole representative western blot of AD Cortex CathepsinD.

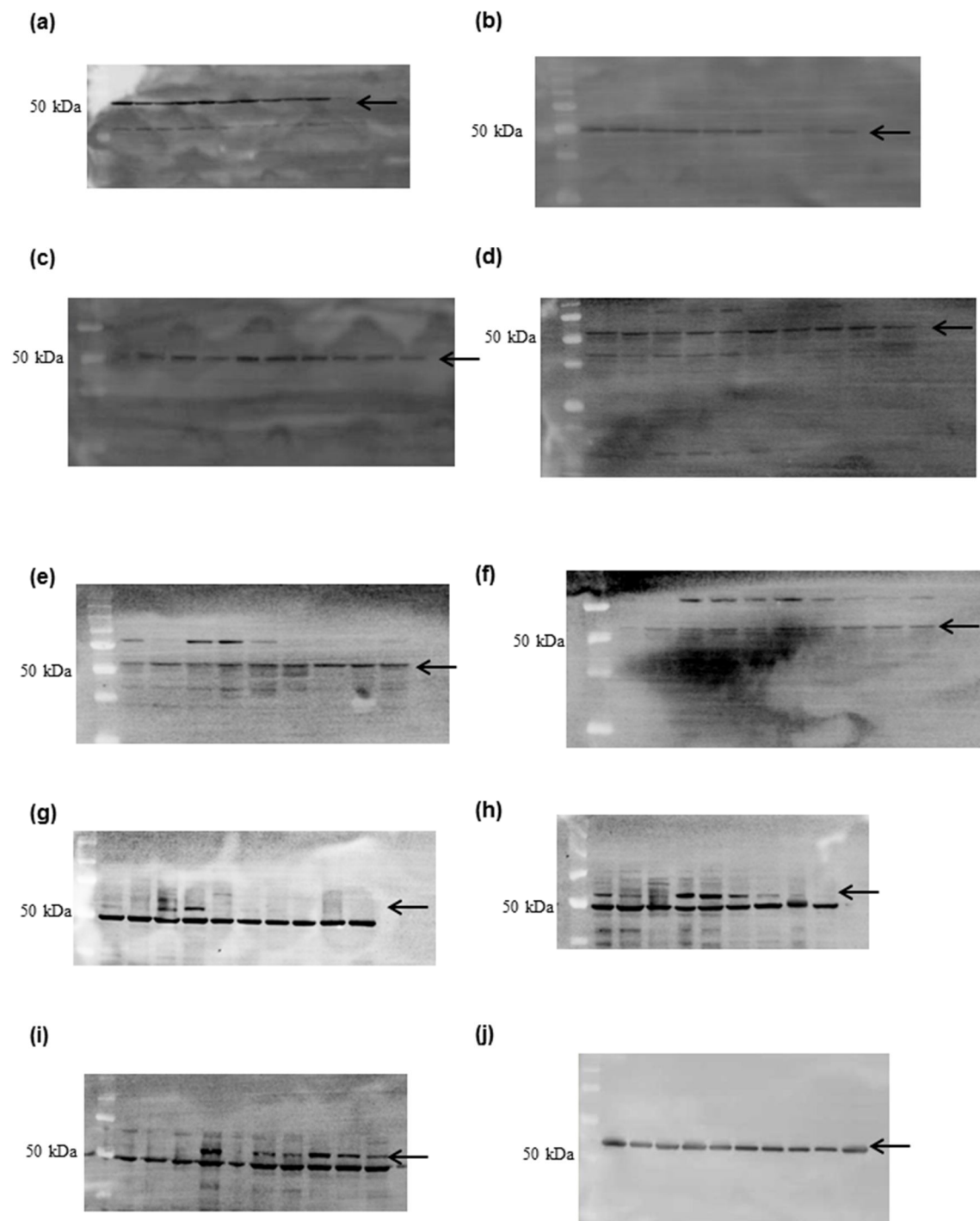


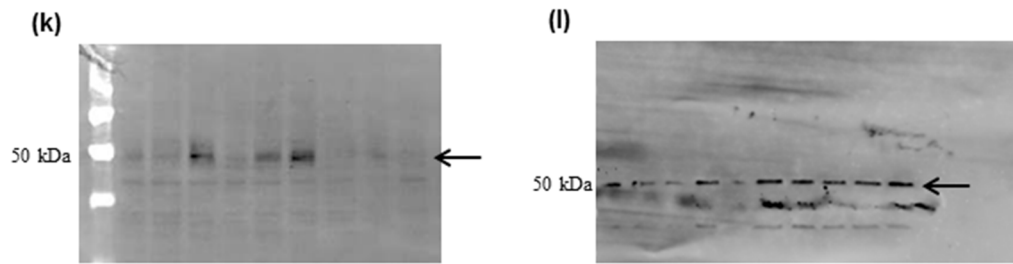
Supplementary Figure 7. (a) Whole representative western blot of AD SNpc GRP78; (b) Whole representative western blot of AD Hippocampus GRP78; (c) Whole representative western blot of AD Cortex GRP78; (d) Whole representative western blot of AD SNpc ATF4; (e) Whole representative western blot of AD Hippocampus ATF4; (f) Whole representative western blot of AD Cortex ATF4.



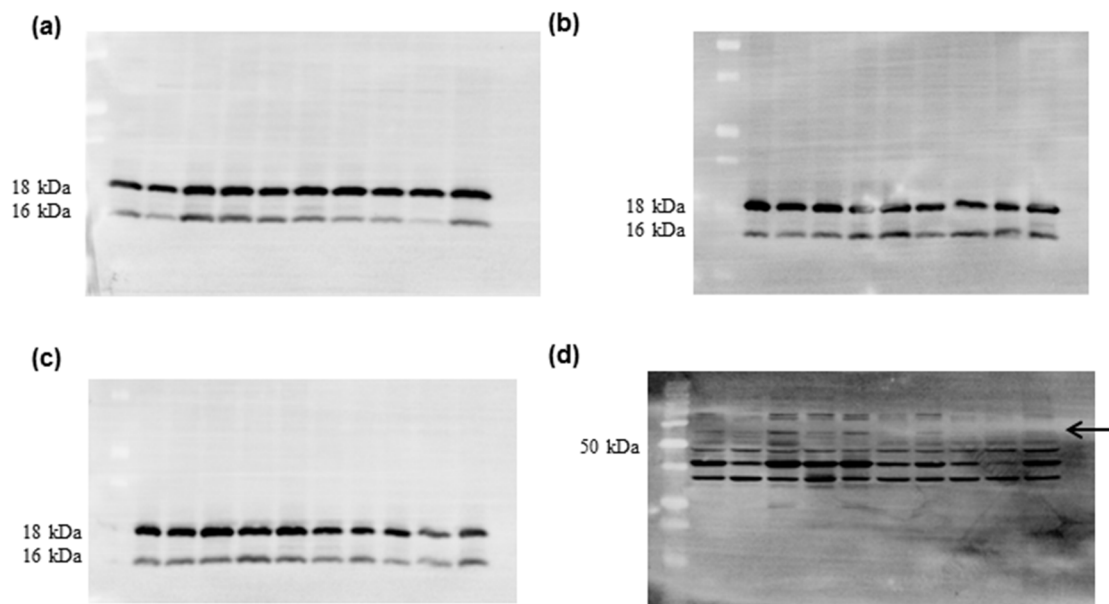
Supplementary Figure 8. (a) Whole representative western blot of AD SNpc Synaptophysin; (b) Whole representative western blot of AD Hippocampus Synaptophysin; (c) Whole representative western blot of AD Cortex Synaptophysin; (d) Whole representative western blot of AD SNpc PSD95; (e) Whole representative

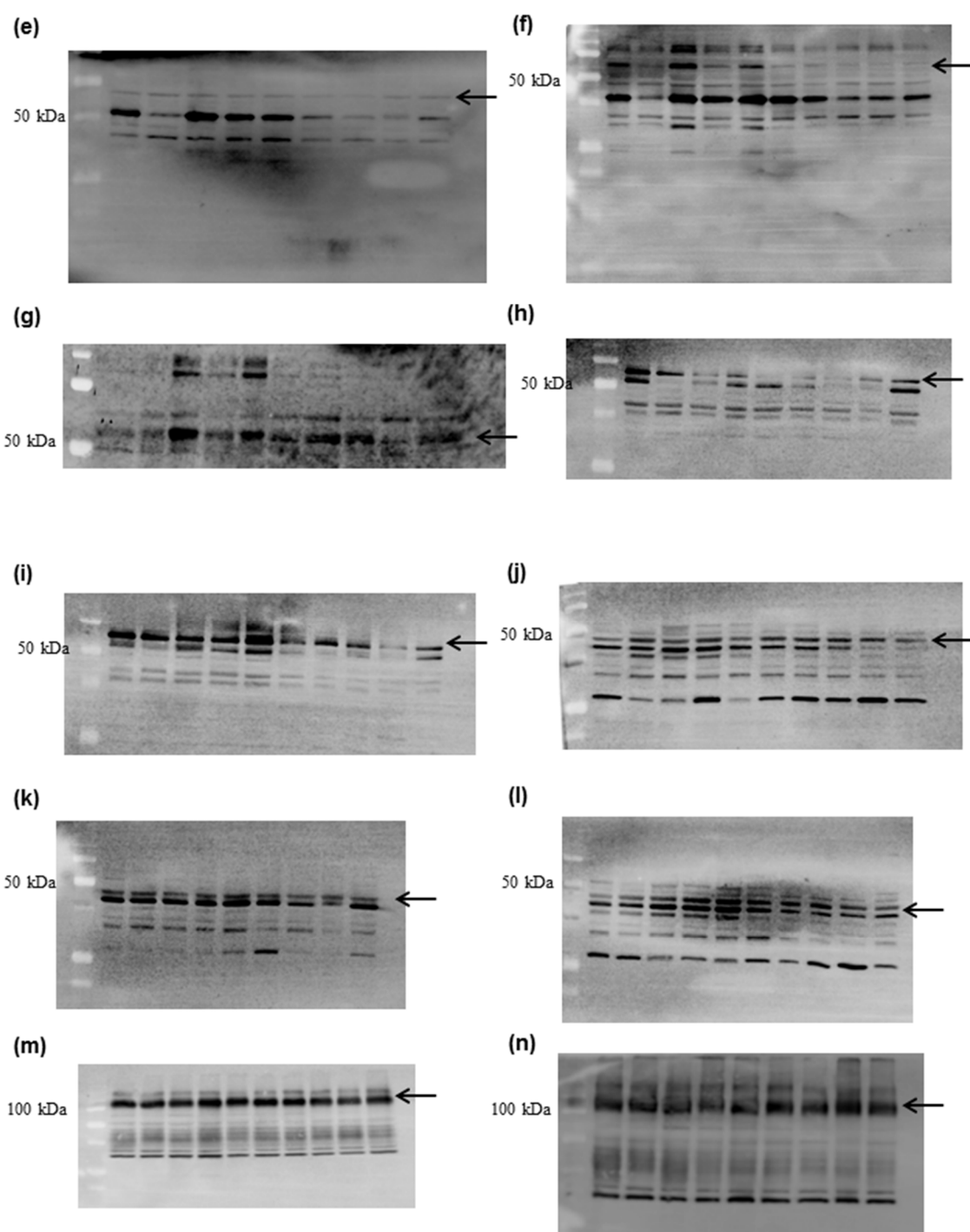
western blot of AD Hippocampus PSD95; (f) Whole representative western blot of AD Cortex PSD95; (g) Whole representative western blot of AD SNpc HSP60; (h) Whole representative western blot of AD Hippocampus HSP60; (i) Whole representative western blot of AD Cortex HSP60.

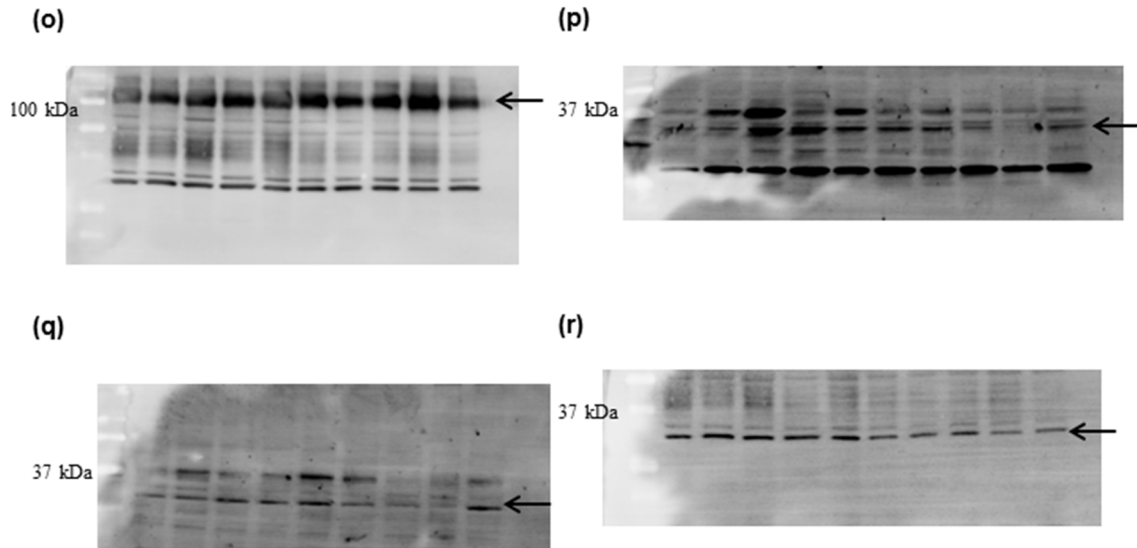




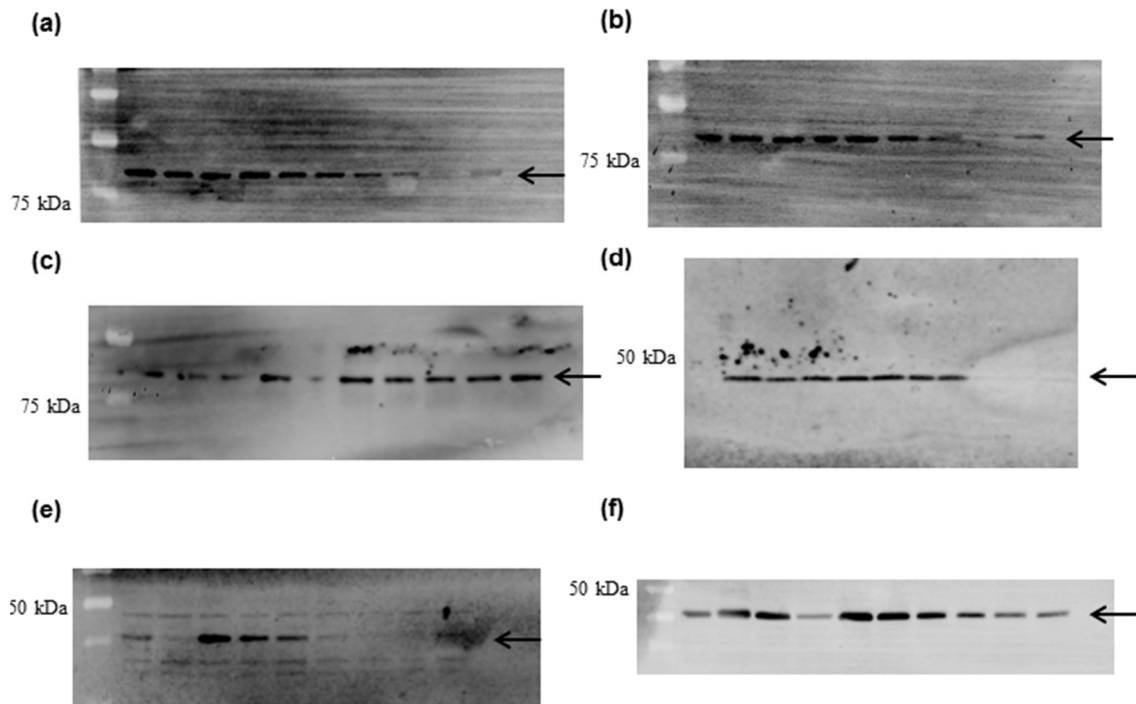
Supplementary Figure 9. (a) Whole representative western blot of DV SNpc acetylated α -tubulin; (b) Whole representative western blot of DV Hippocampus acetylated α -tubulin; (c) Whole representative western blot of DV Cortex acetylated α -tubulin; (d) Whole representative western blot of DV SNpc acetylated-tau; (e) Whole representative western blot of DV Hippocampus acetylated-tau; (f) Whole representative western blot of DV Cortex acetylated-tau; (g) Whole representative western blot of DV SNpc phospho-tau; (h) Whole representative western blot of DV Hippocampus phospho-tau; (i) Whole representative western blot of DV Cortex phospho-tau; (j) Whole representative western blot of DV SNpc Tau; (k) Whole representative western blot of DV Hippocampus Tau; (l) Whole representative western blot of DV Cortex Tau.



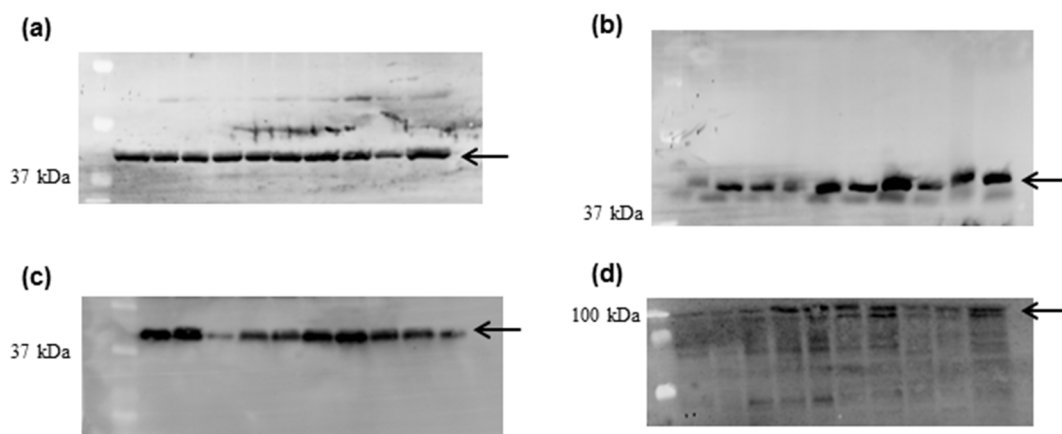


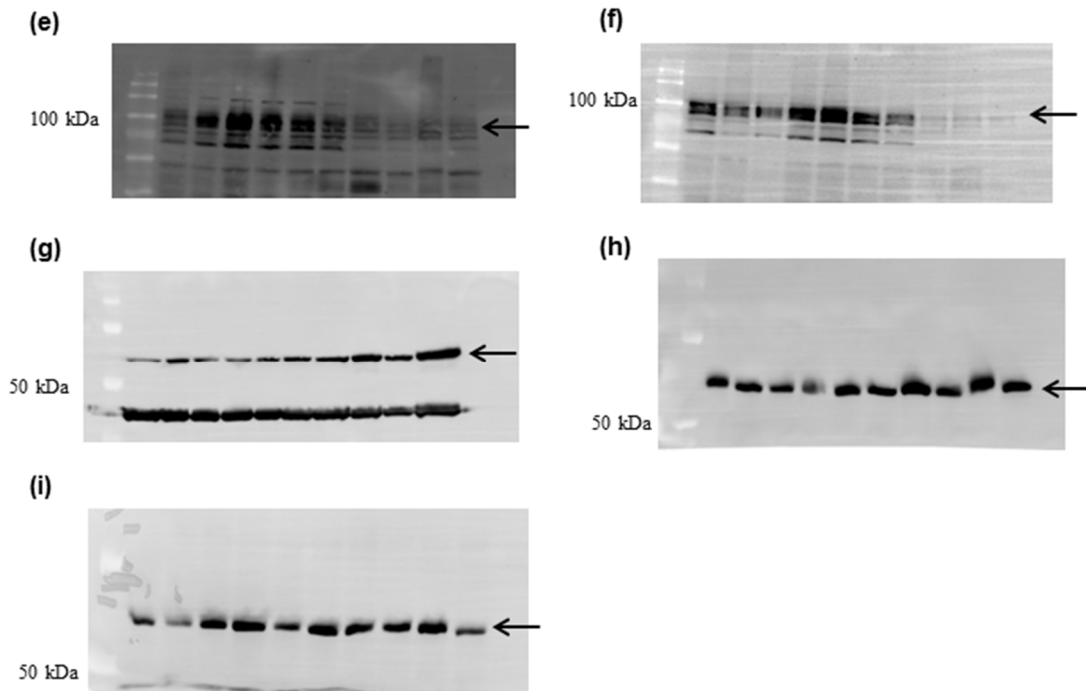


Supplementary Figure 10. (a) Whole representative western blot of DV SNpc LC3; (b) Whole representative western blot of DV Hippocampus LC3; (c) Whole representative western blot of DV Cortex LC3; (d) Whole representative western blot of DV SNpc p62; (e) Whole representative western blot of DV Hippocampus p62; (f) Whole representative western blot of DV Cortex p62; (g) Whole representative western blot of DV SNpc Beclin; (h) Whole representative western blot of DV Hippocampus Beclin; (i) Whole representative western blot of DV Cortex Beclin; (j) Whole representative western blot of DV SNpc Lamp2A; (k) Whole representative western blot of DV Hippocampus Lamp2A; (l) Whole representative western blot of DV Cortex Lamp2A; (m) Whole representative western blot of DV SNpc Lamp1; (n) Whole representative western blot of DV Hippocampus Lamp1; (o) Whole representative western blot of DV Cortex Lamp1; (p) Whole representative western blot of DV SNpc CathepsinD; (q) Whole representative western blot of DV Hippocampus CathepsinD; (r) Whole representative western blot of DV Cortex CathepsinD.



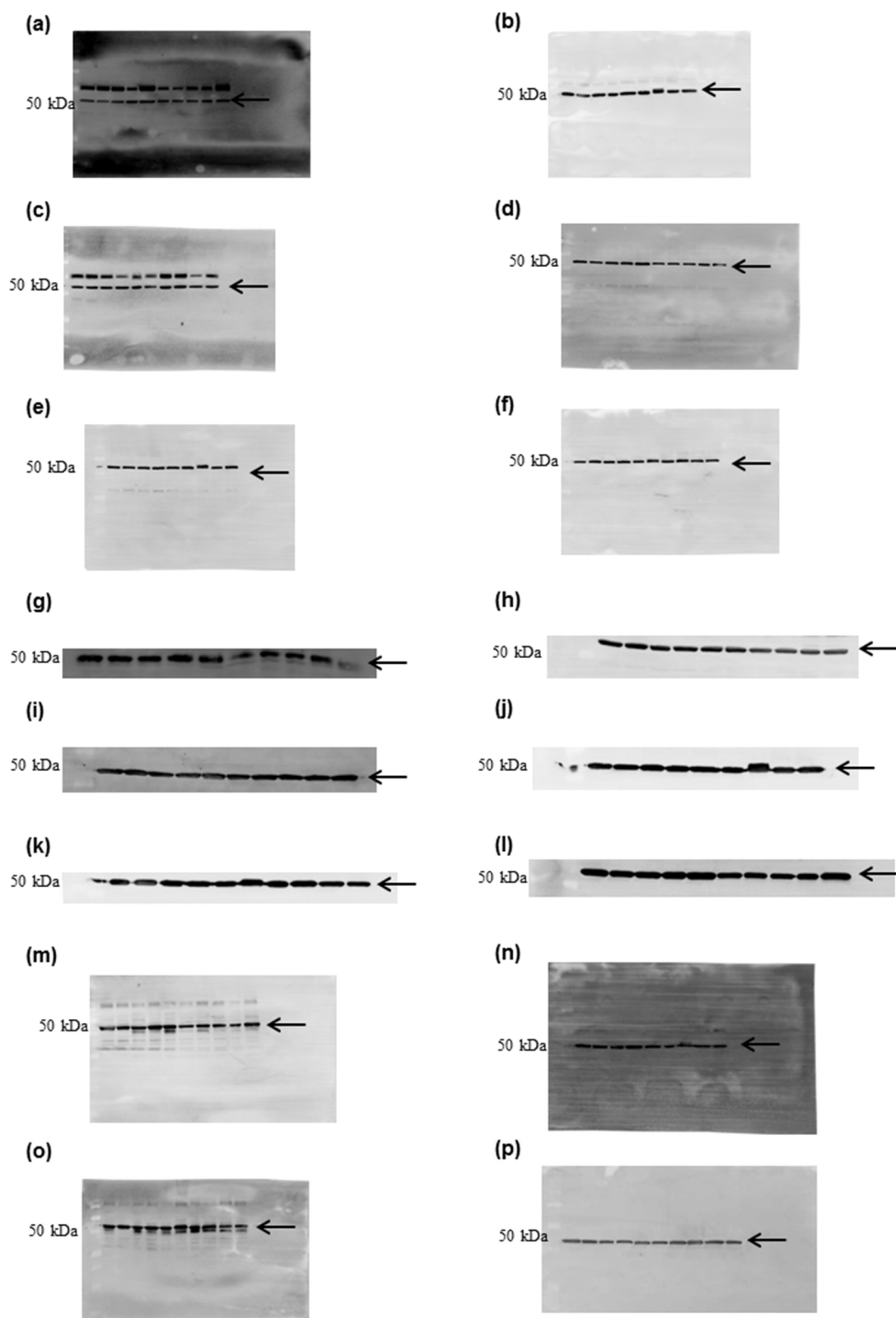
Supplementary Figure 11. (a) Whole representative western blot of DV SNpc GRP78; (b) Whole representative western blot of DV Hippocampus GRP78; (c) Whole representative western blot of DV Cortex GRP78; (d) Whole representative western blot of DV SNpc ATF4; (e) Whole representative western blot of DV Hippocampus ATF4; (f) Whole representative western blot of DV Cortex ATF4.





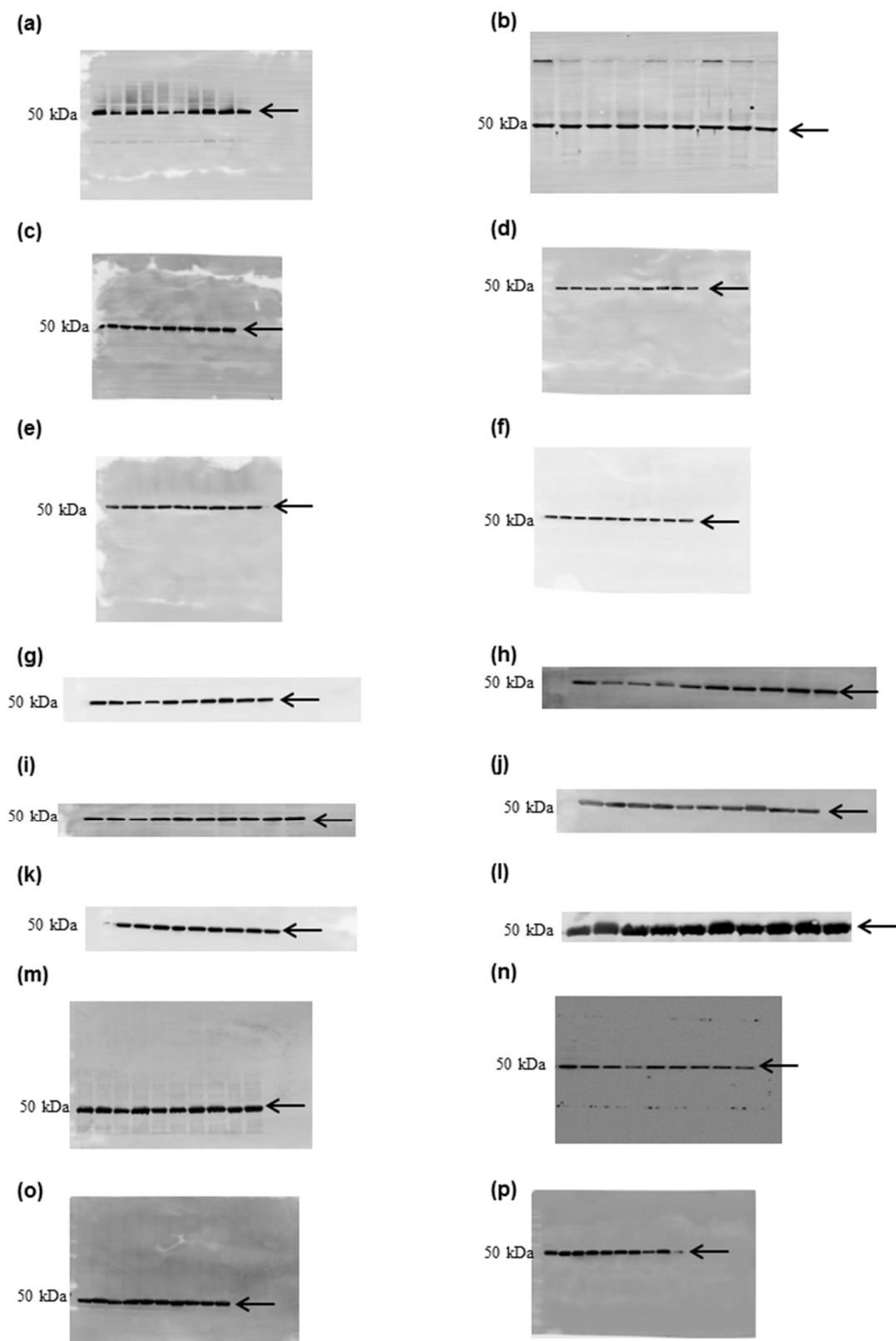
Supplementary Figure 12. (a) Whole representative western blot of DV SNpc Synaptophysin; (b) Whole representative western blot of DV Hippocampus Synaptophysin; (c) Whole representative western blot of DV Cortex Synaptophysin; (d) Whole representative western blot of DV SNpc PSD95; (e) Whole representative western blot of DV Hippocampus PSD95; (f) Whole representative western blot of DV Cortex PSD95; (g) Whole representative western blot of DV SNpc; (h) HSP60 Whole representative western blot of DV Hippocampus HSP60; (i) Whole representative western blot of DV Cortex HSP60.

Before probing membranes with the loading control protein (alpha-tubulin) stripping was performed for the removal of primary and secondary antibodies from the western blot membrane. Stripping protocol was the following: -incubation for 30min with Methanol 40% to remove the excess of ECF; -incubation with Tris buffered saline solution supplemented with Tween (TBS-T) for 30min; -incubation for 5min with water, followed by 10min with 0,2M NaOH and 5min with water to remove the primary and secondary antibody; finally membranes were blocked with 5% BSA in TBS-T and incubated with the loading control antibody overnight. Full length blots of alpha-tubulin band are showed in the next Supplementary Figures. For Figure 13, 14 and 15 from (g) to (i) membranes were cut to separately blot alpha-tubulin to avoid A β and SNCA background staining allowing a clearer quantification.



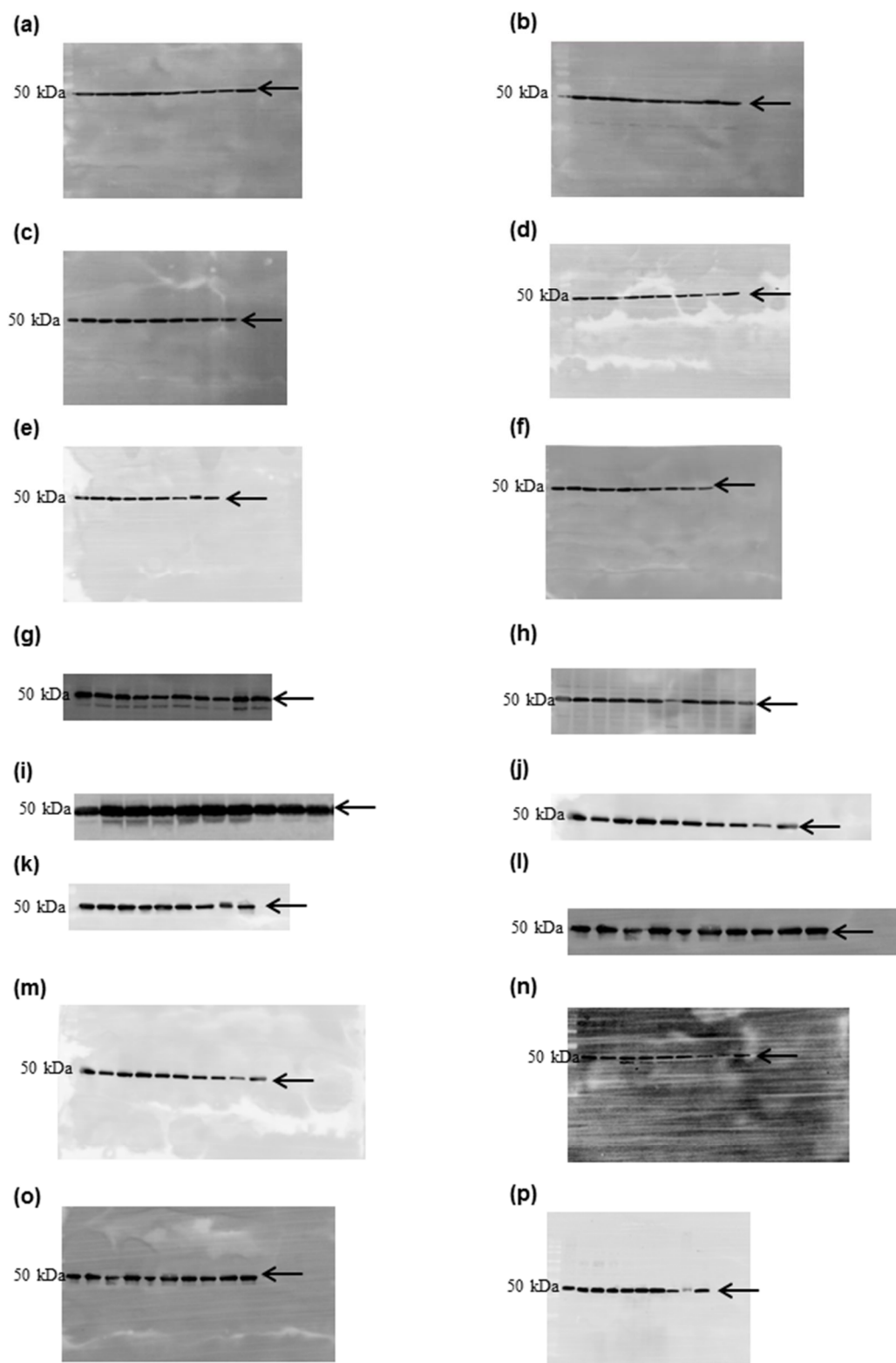
Supplementary Figure 13. (a) Whole representative western blot of PD SNpc alpha-tubulin for Figure 1(a). (b) Whole representative western blot of PD Hippocampus alpha-tubulin for Figure 1(b). (c) Whole representative western blot of PD Cortex alpha-

tubulin for Figure 1(c). (d) Whole representative western blot of PD SNpc alpha-tubulin for Figure 2(a). (e) Whole representative western blot of PD Hippocampus alpha-tubulin for Figure 2(b). (f) Whole representative western blot of PD Cortex alpha-tubulin for Figure 2(c). (g) Whole representative western blot of PD SNpc alpha-tubulin for Figure 3(a). (h) Whole representative western blot of PD Hippocampus alpha-tubulin for Figure 3(b). (i) Whole representative western blot of PD Cortex alpha-tubulin for Figure 3(c). (j) Whole representative western blot of PD SNpc alpha-tubulin for Figure 3(e). (k) Whole representative western blot of PD Hippocampus alpha-tubulin for Figure 3(f). (l) Whole representative western blot of PD Cortex alpha-tubulin for Figure 3(g). (m) Whole representative western blot of PD SNpc alpha-tubulin for Figure 4(a) and Figure 5(a). (n) Whole representative western blot of PD Hippocampus alpha-tubulin for Figure 4(b). (o) Whole representative western blot of PD Cortex alpha-tubulin for Figure 4(c) and Figure 5(c). (p) Whole representative western blot of PD Hippocampus alpha-tubulin for Figure 5(b).



Supplementary Figure 14. (a) Whole representative western blot of AD SNpc alpha-tubulin for Figure 6(a). (b) Whole representative western blot of AD Hippocampus alpha-tubulin for Figure 6(b). (c) Whole representative western blot of AD Cortex

alpha-tubulin for Figure 6(c). (d) Whole representative western blot of AD SNpc alpha-tubulin for Figure 7(a). (e) Whole representative western blot of AD Hippocampus alpha-tubulin for Figure 7(b). (f) Whole representative western blot of AD Cortex alpha-tubulin for Figure 7(c). (g) Whole representative western blot of AD SNpc alpha-tubulin for Figure 8(a). (h) Whole representative western blot of AD Hippocampus alpha-tubulin for Figure 8(b). (i) Whole representative western blot of AD Cortex alpha-tubulin for Figure 8(c). (j) Whole representative western blot of AD SNpc alpha-tubulin for Figure 8(e). (k) Whole representative western blot of AD Hippocampus alpha-tubulin for Figure 8(f). (l) Whole representative western blot of AD Cortex alpha-tubulin for Figure 8(g). (m) Whole representative western blot of AD SNpc alpha-tubulin for Figure 9(a) and Figure 10(a). (n) Whole representative western blot of AD Hippocampus alpha-tubulin for Figure 9(b). (o) Whole representative western blot of AD Cortex alpha-tubulin for Figure 9(c) and Figure 10(c). (p) Whole representative western blot of AD Hippocampus alpha-tubulin for Figure 10(b).



Supplementary Figure 15. (a) Whole representative western blot of VD SNpc alpha-tubulin for Figure 11(a). (b) Whole representative western blot of VD Hippocampus alpha-tubulin for Figure 11(b). (c) Whole representative western blot of VD Cortex alpha-tubulin for Figure 11(c). (d) Whole representative western blot of VD SNpc alpha-tubulin for Figure 12(a). (e) Whole representative western blot of VD

Hippocampus alpha-tubulin for Figure 12(b). (f) Whole representative western blot of VD Cortex alpha-tubulin for Figure 12(c). (g) Whole representative western blot of VD SNpc alpha-tubulin for Figure 13(a). (h) Whole representative western blot of VD Hippocampus alpha-tubulin for Figure 13(b). (i) Whole representative western blot of VD Cortex alpha-tubulin for Figure 13(c). (j) Whole representative western blot of VD SNpc alpha-tubulin for Figure 13(e). (k) Whole representative western blot of VD Hippocampus alpha-tubulin for Figure 13(f). (l) Whole representative western blot of VD Cortex alpha-tubulin for Figure 13(g). (m) Whole representative western blot of VD SNpc alpha-tubulin for Figure 14(a) and Figure 15(a). (n) Whole representative western blot of VD Hippocampus alpha-tubulin for Figure 14(b). (o) Whole representative western blot of VD Cortex alpha-tubulin for Figure 14(c) and Figure 15(c). (p) Whole representative western blot of VD Hippocampus alpha-tubulin for Figure 15(b).