

Supplementary Data

CRMP2 Hyperphosphorylation is Characteristic of Alzheimer's Disease and not a Feature Common to Other Neurodegenerative Diseases

Ritchie Williamson^a, Lidy van Aalten^a, David M.A. Mann^b, Bettina Platt^c, Florian Plattner^d, Lynn Bedford^e, John Mayer^e, David Howlett^f, Alessia Usardi^g, Calum Sutherland^a and Adam R. Cole^{a,*}

^a*Biomedical Research Institute, University of Dundee, Ninewells Hospital, Dundee, Scotland, UK*

^b*Neurodegeneration and Mental Health Research Group, University of Manchester, Greater Manchester Neuroscience Centre, Hope Hospital, Salford, UK*

^c*School of Medical Sciences, University of Aberdeen, Aberdeen, Scotland, UK*

^d*Institute of Neurology, University College London, London, UK*

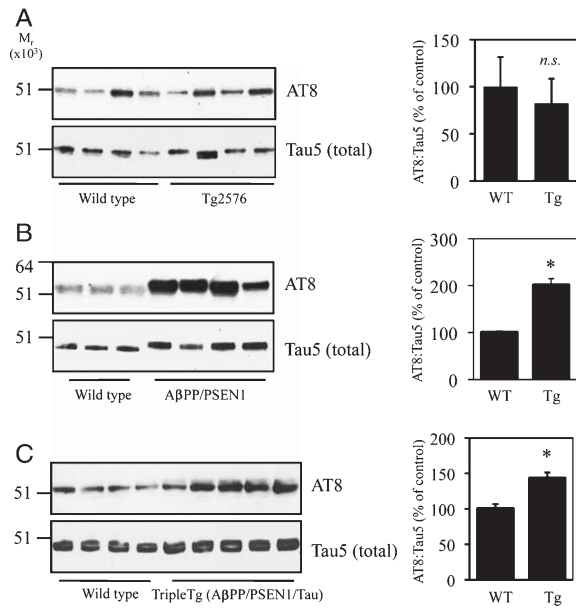
^e*School of Biomedical Sciences and School of Molecular Medical Sciences, University of Nottingham Medical School, Queen's Medical Centre, Nottingham, UK*

^f*GlaxoSmithKline, Harlow, Essex, UK*

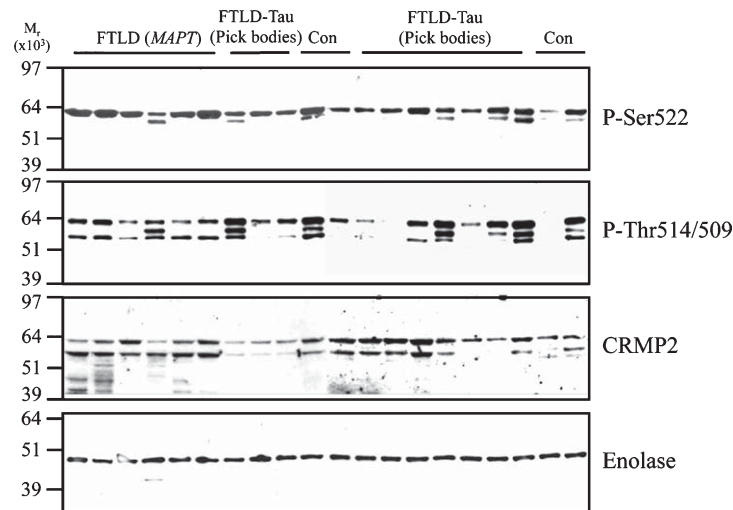
^g*Institute of Psychiatry, Kings College London, London, UK*

Accepted 13 July 2011

*Correspondence to: Dr. Adam R. Cole, Garvan Institute of Medical Research, 384 Victoria St. Darlinghurst, Sydney, Australia. Tel.: +61 2 9295 8289; Fax: +61 3 9296 8100; E-mail: a.cole@garvan.org.au.



Supplementary Figure 1. *Tau phosphorylation in some mouse models of AD.* Cortical tissue from Tg2576 mice and age-matched controls were homogenized in 1% Triton X-100 lysis buffer, subjected to Western blot analysis and membranes probed with antibodies that recognize phosphorylated tau (AT8; upper panel) or total tau (tau-5; lower panel). The ratio of AT8:tau-5 in control and Tg2576 mouse cortex is presented as a graph. B) Same as A), except AβPP/PSEN-1 versus control mouse cortex. C) Same as A), except AβPP/PSEN1/tau triple-transgenic versus control mouse cortex. (average \pm standard deviation; *n.s.* = not significant, $* = p < 0.05$ (Students t-test)).



Supplementary Figure 2. *CRMP2 phosphorylation is decreased in FTLD-tau diseases.* Frontal cortex tissue lysates from 6 cases of human FTLD-tau associated with exon 10 + 16 mutation in *MAPT* and 18 with Pick body pathology, as well as 8 age-matched controls, were subjected to Western blot analysis. Membranes were probed with antibodies that specifically recognize CRMP2 when phosphorylated at Ser522 (first panel), Thr514/509 (second panel), total CRMP2 (third panel) and NSE as a loading control (fourth panel). Representative blots of control, FTLD (MAPT) and FTLD-tau (Pick's Bodies) samples are shown.