

**Additional file 5** Phosphorylated alpha-synuclein in inclusion bodies colocalizes with sequestosome-1/p62

Confocal imaging of brain sections of Tg(SNCA)<sup>1Nbm/J</sup> mice injected with brain extracts from MSA or probable iLBD cases shows that at 9 months post injection staining with the pSyn#64 antibody for phosphorylated alpha-synuclein (**a-d**) and staining for sequestosome-1/p62 (**e-h**) colocalize when merged (**i-l**). Occasionally, a few smaller sized aggregates of sequestosome-1/p62 could be detected that did not appear to colocalize with phosphorylated alpha-synuclein. Nuclei were stained with DAPI (blue). Scale bar = 10  $\mu$ m.

