

Supplementary material

Pathological pSer129- α Syn quantification

To determine the load of pSer129- α Syn pathology, a script was developed in QuPath [2] that first identified and counted LB-like structures (both intra- and extracellular) and then determined the %area load of the non-LB pSer129- α Syn pathology. In this study, the LB-like structures count is referred to as LB count, but it is important to mention that the LB count might also occasionally include corpora amylaceas [1, 5] since they are similar in morphology to LBs and positive to pSer129- α Syn staining (even though they are located mostly in superficial rather than deep cortical layers). That is why, in our cohort, control cases showed a few LB-like structures, which corresponded not to LBs but to corpora amylaceas (checked by I.F.). To detect LBs, an object classifier was created based on the DAB signal, and the object diameter was defined at 5-25 μ m (or an area between 28.27 and 490.9 μ m²), based on the definition of LBs [3, 4]. After counting LB-like structures, the LB detections were excluded from the ROIs and pixel classification was used to quantify the %area load of non-LB pSer129- α Syn pathology, which includes morphologies such as Lewy Neurites and a variety of morphological inclusions [3] (Additional file 1, Fig. S2).

References supplementary material

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