

Supplementary methods:

Assessment of hippocampal volume

As a surrogate for regional brain atrophy that is highly related to AD pathology and to memory impairment (Petersen *et al.*, 2000), we assessed the volumes of the bilateral hippocampi, using a previously described fully automated approach that was previously validated using manual segmentation (Mak *et al.*, 2011). Briefly, we applied the DARTEL flow-fields that were estimated during the spatial normalization step (see above) to normalize each participant's grey matter map to MNI space. During normalization the images were modulated using the Jacobian determinants to preserve local grey matter concentrations (Good *et al.*, 2001). Each participants' normalized and modulated grey matter map was subsequently masked with a bilateral hippocampus mask selected from the widely used Automatic Anatomic Labeling atlas (Tzourio-Mazoyer *et al.*, 2002). From these masked images, we then extracted the bilateral hippocampal volume (Jack *et al.*, 2000; Petersen *et al.*, 2000).

References:

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