Document title

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# Aims

The aims of this study were to evaluate the association between mitochondrial haplogroup and risk of dementia with Lewy bodies (DLB) in case-control analysis, and also to examine associations of mitochondrial haplogroup with severity of Lewy body (LB) pathology and markers of substantia nigra neuronal loss in DLB cases only.

# Methods

## Study subjects and data collection

The theme here is included in the Pmisc package and can be used by including it in the document YAML, as shown below.

## Genetic analysis

Mitochondrial haplogroup was measured for each DLB case and control (Table 2). Haplogroups that occurred in fewer than 10 patients in a given association analysis were not analyzed in that specific analysis.

## Neuropathological assessment

### Assessment of neurofibrillary tangles, senile plaques, and Lewy bodies

A detailed description of the neuropathologic methodology that was used to assess neurofibrillary tangles (NFTs), senile plaques (SPs), and Lewy bodies (LBs) has been illustrated previously. [2] Briefly, neuroanatomical sampling and thioflavin-S fluorescence microscopy was performed using procedures of Terry et al. [3], where counts of NFTs and SPs were measured manually in six cortical regions, four sectors of the hippocampus, and two regions of the amygdala. Formalin-fixed, paraffin-embedded tissue samples from limbic and cortical regions were cut at a 5 μm thickness and mounted on glass slides. Assessment of LB pathology was performed using an α-synuclein antibody (NACP, 1:3000 rabbit polyclonal, Mayo Clinic antibody) with formic acid pretreatment for 30 min and was processed using the DAKO Autostainer (DAKO Auto Machine Corporation, Carpinteria, CA) with DAKO Envision+ HRP System. LB counts were measured in five cortical regions: middle frontal, superior temporal, inferior parietal, cingulate, and parahippocampal. The staging scheme of Kosaka et al. was used to categorize the distribution of LB pathology as either brainstem, transitional, or diffuse. [4] Braak NFT stage [5] and Thal amyloid phase [6] were assigned according to the distributions of NFTs and SPs, respectively. These neuropathologic measures are summarized in Table 1.

#### Table header