

## **Search for the key pathogenic molecules in Alzheimer's disease brain**

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### Research question and background

We are investigating the mechanism of Alzheimer's disease (AD) using some AD models such as PP2A inhibition, triple transgenic mice, etc. From this, we are suspecting some molecules to be altered in the real AD brains and to be some key pathogenic molecules. Recently, we found some difference between normal aging and AD-related pathogenic aging in mice. Thus, we wanted to test the expression of key molecules and differences between normal aged brains and some real AD brain samples from NBB.

### Methods and tissues used

Paraffin sectioned slides and frozen tissues were obtained from NBB. Frozen tissues were further processed for Western blotting and RT-PCR. CSF samples are being analyzed to search for the putative biomarkers.

### Results and conclusion

We found that some APP-related peptides are specifically accumulated in the CA1 region of hippocampus of normal aged brains. Species of APP-related peptides are altered in the CA1 of AD brains. This point may confer the differential diagnosing point between normal aging and AD. This is related with proteasomal dysfunction. We also found that autophagy flow is blocked in AD brains with Western blots and immunohistochemistry.