

## Effect of *Lycoris chejuensis* and its Active Components on Experimental Models of Alzheimer's Disease

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We found that an extract of *Lycoris chejuensis*, and its three isolated active components, narciclasine, 7-deoxynarciclasine and 7-deoxy-trans-dihydronarciclasine, each significantly reduced the formation of amyloid- $\beta$  peptides in HeLa cells transfected with an amyloid precursor protein carrying the Swedish mutation up to  $45\pm 3.6\%$ . The extract down-regulated amyloid precursor protein, especially the mature form by up to 88%, and reduced the ability of secretases to generate toxic amyloid- $\beta$ . Double-transgenic mice treated with the extract for 4 months also showed significantly reduced levels of amyloid- $\beta$  and plaques while exhibiting improved memory functions in the Morris water maze and novel object recognition tests. In conclusion, the extract and isolated active components of *L. chejuensis* decreased the production of amyloid- $\beta$  by attenuating amyloid precursor protein levels. Furthermore, the extract improved the disrupted memory functions in animals while inhibiting amyloid plaque formation. Thus, this extract, as well as its active components, could prove beneficial in the treatment of Alzheimer's disease.

**Keywords:** *Lycoris chejuensis*, Alzheimer's disease, Amyloid-beta, Amyloid-beta precursor protein, Narciclasine

### Biography:

Hyun Ok Yang has complete her PhD on pharmacognogy at Seoul National University in 1993. After Post-doctoral study at University of Iowa, USA, she is now a principal research scientist at Natural Products Research Center in Korea Institute of Science and Technology (KIST) & a professor of UST, KIST School, Republic of Korea.