

Extracts of *Ugni molinae* for use in neuroprotection

University of Chile has generated formulations based on extracts of the Chilean native plant *Ugni molinae* that help preventing and reducing the development of neurodegenerative disorders related to protein misfolding

THE CHALLENGE

Current treatments for neurodegenerative diseases related to protein misfolding – such as Alzheimer’s disease (AD), Huntington disease (HD), Parkinson’s disease (PD) and Amyotrophic Lateral Sclerosis (ALS) – are only palliative, and none of them is capable of arrest and revert these pathologies. The extracts described here represent an alternative therapeutic solution to address these issues.

THE TECHNOLOGY

These neuroprotective extracts consist of ethanolic extracts of the Chilean native plant *U. molinae* which contain bioactive compounds that reduce the size and number of toxic protein aggregates associated with protein misfolding pathologies, which would allow stopping the progression of these pathologies.

The effects of these extracts have been tested *in vitro* in cellular models for AD, HD, PD and ALS, and the results showed that these *U. molinae* extracts possess strong anti-aggregation properties, being capable of reducing significantly the number and size of toxic protein aggregates in these cells.

STAGE OF DEVELOPMENT

- **Validated *in vitro* in HEK293 and neuronal models for aggregation** – Analysis by automated microscopy, Western blot and Filter trap
- **Evaluation of aggregation of recombinant human β -amyloid** – Fluorescence assay with Thioflavin T probe and transmission electronic microscopy (Fig. 1)

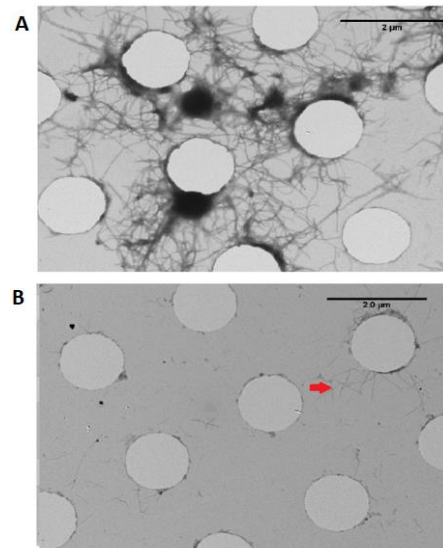


Figure 1. Treatment with an ethanolic *U. molinae* extract reduces the accumulation of aggregates of recombinant human β -amyloid peptide. (A) Without treatment, and (B) with treatment. TEM: 6000x, bar 2 μ m.

APPLICATIONS

- Prevention of neurodegenerative diseases
- Alternative therapy for neurodegenerative diseases

OPPORTUNITY

University of Chile is searching for industry partners for out-licensing.

INTELLECTUAL PROPERTY/REFERENCES

- Chilean patent application 201703359; WO/2019/126885