

HETEROGENEOUS MOLECULAR ALTERATIONS IN THALAMIC NEURONS ACROSS ALZHEIMER`S DISEASE STAGES

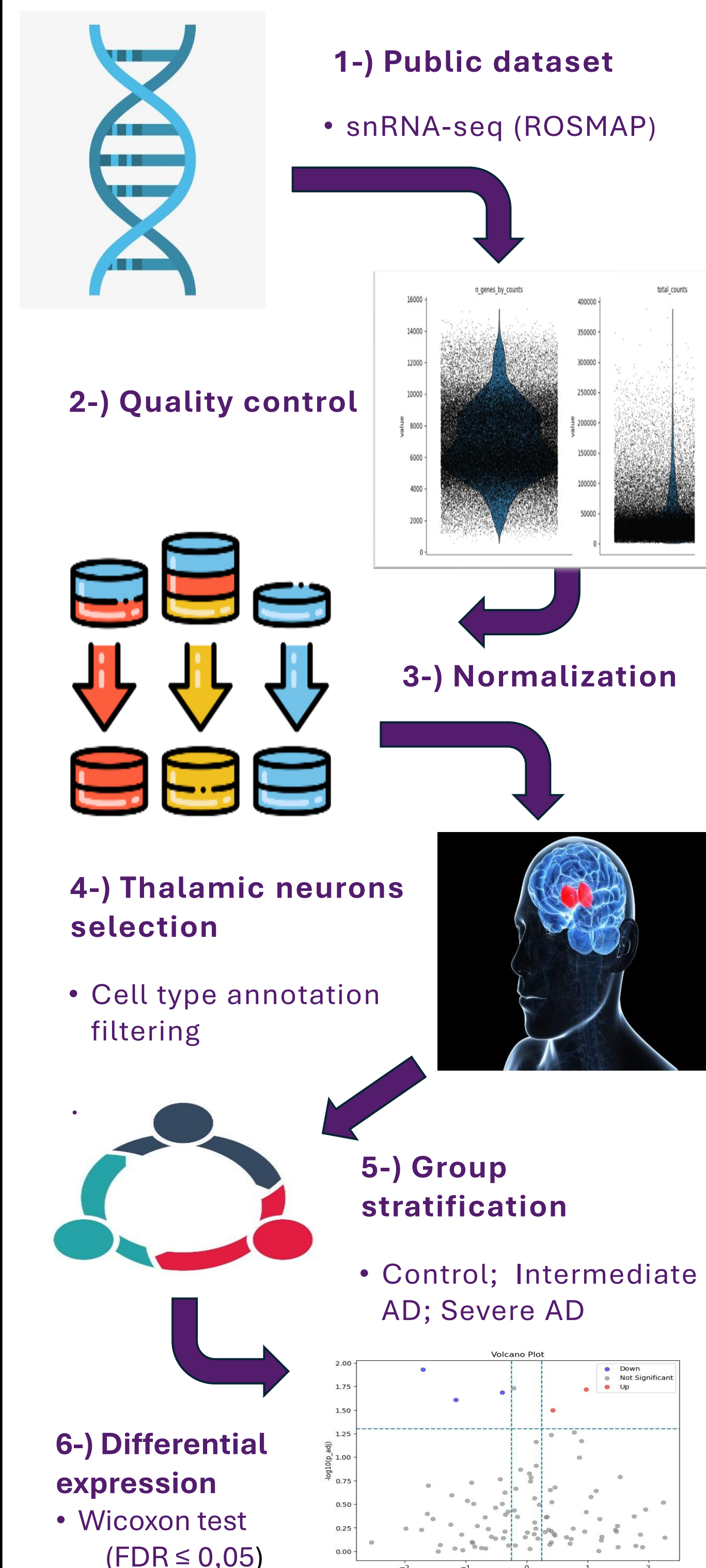
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Alzheimer's disease progression in the thalamus is associated with heterogeneous molecular alterations that do not converge into well-defined biological pathways, supporting a distributed and network-level role of the thalamus in disease pathophysiology.

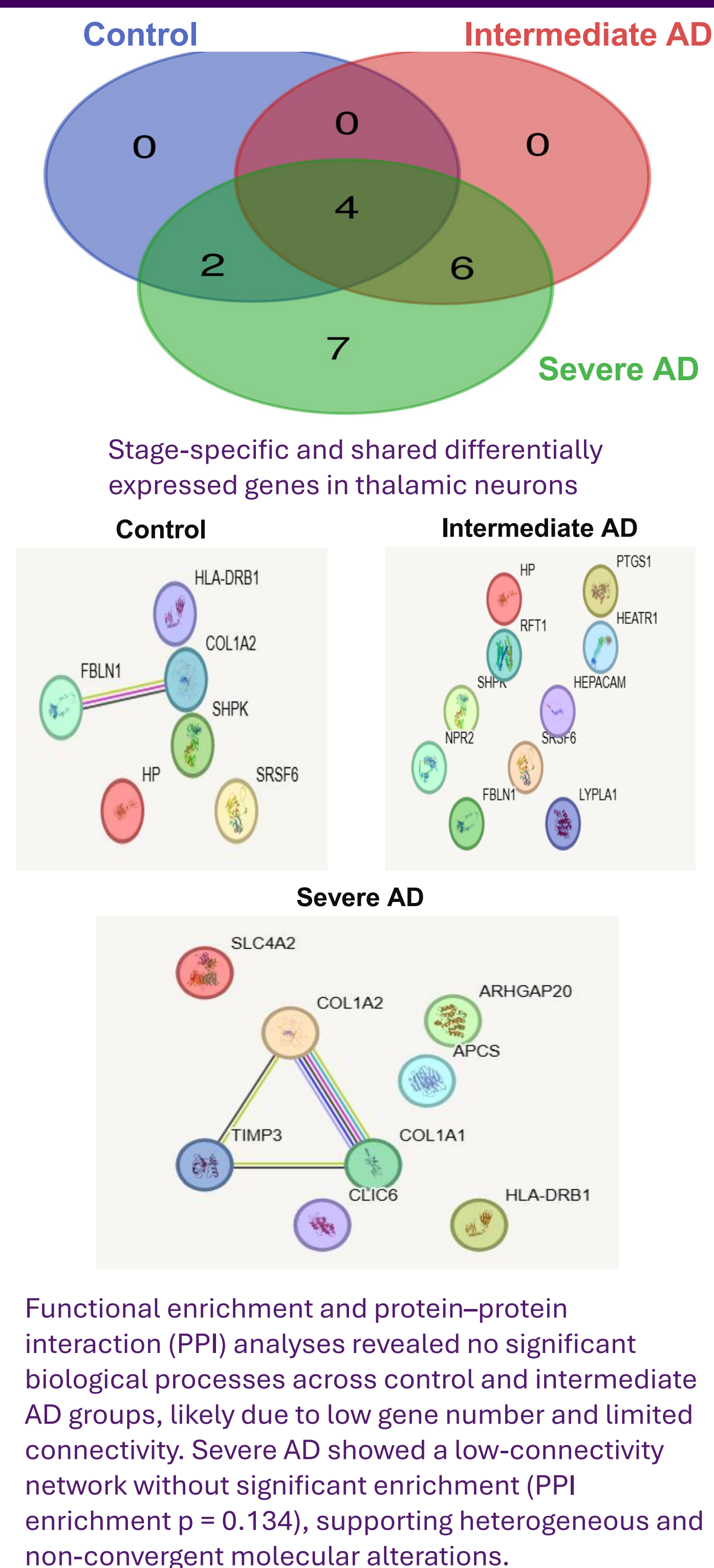
INTRODUCTION

- Recent evidence indicates that Alzheimer's disease extends beyond hippocampal pathology.
- Specific thalamic nuclei exhibit atrophy and dysfunctions in thalamo-cortical connectivity, suggesting a key role of the thalamus in cerebral integration and symptom progression.
- This study aimed to characterized stage-dependent alterations in thalamic neurons, focusing on gene expression, protein interactions and functional enrichment

METHODS



RESULTS



CONCLUSIONS

- AD progression in the thalamus showed heterogeneous molecular alterations with limited pathway convergence
- These findings support thalamic involvement and highlight molecular complexity mechanisms across clinical stages.
- Results suggest a network-modulating role, with distributed molecular changes rather than activation of defined pathways

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