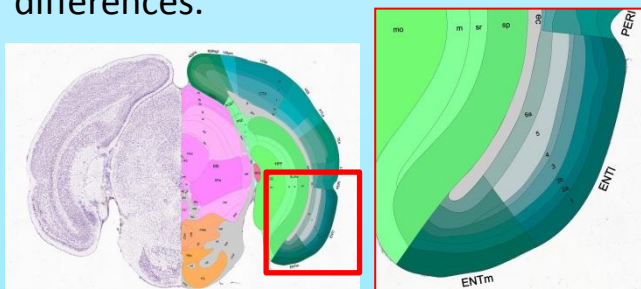


Introduction

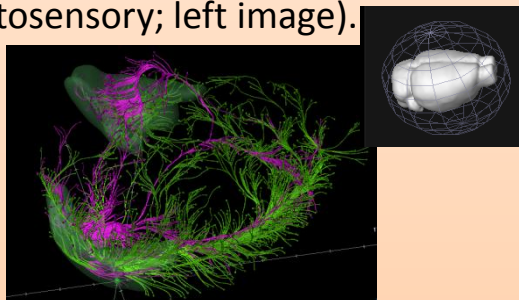
The entorhinal cortex is one of the first areas of degeneration in Alzheimer's disease, and decrease activity is evident even before the disease onset [1].

The medial and lateral parts of the entorhinal cortex (ENTm; ENTl) have both 6-layered structure, but show distinct functions: ENTm cells have spatial specificity (grid cells; [2]) unlike ENTl [3], which is involved in associating contextual information [4]. Using Allen Brain Atlas, I investigated into their anatomical (below), connectivity, and molecular differences.



Methods & Results

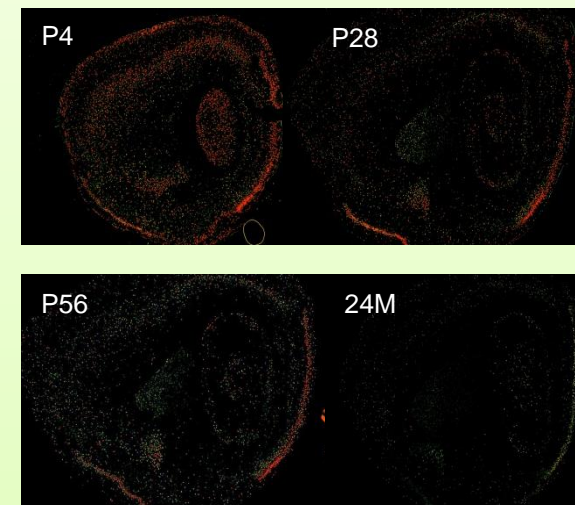
1. Use connectivity atlas to identify different projection patterns of ENTm and ENTl in relation to their functions. ENTl had more projections to sensory cortices (e.g olfactory, somatosensory; left image).



2. Gene search & localization of gene of interests using in situ hybridization images (expression mask). In particular, Reelin (reln: in P56 mice sagittal section) was expressed highly in the entorhinal cortex region (below).



3. From developmental mouse brain search, reelin expression showed age-related decrease (top-left to bottom-right), especially in ENTl.



Summary & Conclusion

1. More connections of ENTl may imply its function in relation to contextual information processing.
2. Reelin as a potential molecular marker for ENTm and ENTl differences, although the data are not conclusive.