

# Control of Dendritic Morphology and Remodeling During Development

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The nervous system is composed of a vast number of neurons with strikingly different dendritic morphology. Since dendrites are used by neurons to receive signals (they are like the antennae for neurons), dendritic morphology plays an important role in neuronal signaling. However, the control of dendrite morphogenesis has been a relatively under-studied problem. A few years ago we found that the dendritic arborization (da) neurons of the *Drosophila* peripheral nervous system serve as an excellent model system for a genetic dissection of dendrite development. We have been using the da neurons to study the following problems: (1) How do different types of neuron acquire their distinctive dendritic morphology? (2) How are the axons and dendrites made differently during development? (3) What controls dendrite remodeling during metamorphosis? From mutant screens, molecular genetic studies of a subset of the genes identified so far, as well as candidate gene approach, we have begun to gain insight of the molecular mechanisms that control dendrite development in *Drosophila*. We have also begun to extend some of the findings to mammalian neurons. I will discuss our recent progress in this research area.

## References

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