Candidate Sociability Genes

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Sociability is defined as individuals’ tendencies to engage in friendly activities, such as feeding, traveling, and resting with conspecifics. It is prevalent among animal species and impacts fitness. Despite the clear importance of sociability for many animals including humans, we still have limited information of its natural genetic and neurobiological architecture. To address this knowledge gap, we generated low- and high-sociability lineages in fruit flies by artificially selecting them for sociability. Using a “multi-genomics” approach, combining genome scans, genome-wide differential gene expression and differential transcript usage analyses, we have identified several relevant candidate sociability genes. So far, we have conducted verification tests on 17 of these sociability candidate genes using RNA interference. We will discuss the functions of the verified sociability genes and plans for future work investigating the genetics of natural variation in sociability.