

## Functional analysis of primary ciliogenesis related factors in zebrafish

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Primary cilia are nonmotile, 1–10  $\mu\text{m}$  long antenna like structures observed in a variety of vertebrate cells. Primary cilia detect extracellular cues, such as mechanical flow and chemical stimulation, and transduce these signals into the cell. Therefore, the dysregulation of primary cilia can cause various diseases, including congenital anomalies, neurodevelopmental disorders, obesity, and cancer.

We have reported the regulation mechanism of primary cilia formation via the ubiquitin-proteasome system, and have identified a novel gene involved in primary cilia. These genes have been suggested to be associated with ciliopathy (a general term for diseases caused by primary ciliary abnormality), and the search for drugs that improve ciliopathy has been developed internationally. In this study, we will conduct a phenotypic analysis using zebrafish and examine what phenotypes are exhibited in zebrafish in which genes involved in the formation of primary cilia are knocked out. Phenotypic analysis in zebrafish is thought to be useful for exploring new treatments and drugs for ciliopathy.