Special Issue

Neural Crest Development in Health and Disease

Message from the Guest Editor

There are several reasons why so many researchers remain fascinated by neural crest cells more than a century after their first description. One reason is the central role these vertebrate-specific cells played during evolution. A second is the unique ability of these cells to migrate over very long distances during a relatively short time window. A third reason is the multipotency of these cells, which is so extensive that the neural crest is even considered a germ layer on its own, just like the ectoderm, mesoderm, and endoderm. Neural crest cells not only contribute a wide array of specialized cell types, but can also indirectly affect tissue morphogenesis by influencing the behavior and/or function of adjacent non-neural crest cells. A fourth reason is the apparent propensity of some neural crest cells to persist as tissue-resident stem cells in many adult tissues. A fifth reason is their involvement in a large number of human diseases, collectively referred to as neurocristopathies, an expanding research field that now benefits from decades of fundamental research on neural crest development.

Guest Editor

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