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Robo signaling effects the production of cranial neural crest cells in chicken embryos

In development embryos, slit/robo signaling plays an important role in the guidance of developing neurons. However, it still unclear whether and how slit/robo signaling is involved in the production of cranial neural crest cells. In this study, we investigated Robo1 deficient mice to reveal developmental defects of cranial parietal and frontal bones, which are derivatives of cranial neural crest cells. Therefore, it is determined the production of HNK1+ cranial neural crest cells after Knock-Down (KD) of Robo1 expression in early chick embryo development. Detection of markers for pre-migratory and migratory neural crest cells, PAX7, showed that the production was affected by Robo1 deficient. In addition, we found that the transcription factor slug is responsible for the aberrant EMT of cranial neural crest cells induced by Robo1 deficient, which also led to abnormal expression of E-and N-Cadherin. Together, the *in vivo* experiments imply that Robo signaling effects the EMT of cranial neural crest cells, which is required for cranial bone development.

Biography

Xiao-Tan Zhang has completed her Master's degree from Jinan University, China. She has worked as an Electron Microscope Technician in Sun Yat-sen University. Currently, she is pursuing PhD courses in Jinan University School.

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