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## MiRNA 92a promotes the proliferation and migration of human neuroblastoma cells via TrkA protein downregulation

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The aims of this study were to investigate the regulation of TrkA protein by micro (mi)RNA 92a and its effect on the proliferation and migration of human neuroblastoma cells. The BE(2) M17 human neuroblastoma cell line was cultured and transfected with either miRNA 92a mimics or miRNA 92a inhibitors. The expression levels of miRNA 92a and TrkA mRNA were detected by quantitative polymerase chain reaction prior and subsequent to transfection. TrkA protein was quantitatively detected by flow cytometry. The proliferation and migration of neuroblastoma cells were examined in vitro by Cell Counting Kit 8 and Transwell assays. Transfection of BE(2) M17 cells with miRNA 92a mimics produced significantly higher expression levels of miRNA 92a compared with those in the same cells transfected with negative controls (NCs). Increased proliferation and migration of the cells was also observed. Transfection of BE(2) M17 cells with miRNA 92a inhibitors resulted in significantly lower expression levels of miRNA 92a when compared with those of the same cells transfected with NCs ( $P < 0.01$ ). This reduction in the miRNA 92a expression levels was accompanied by reduced proliferation and migration of the cells. The expression levels of TrkA mRNA and protein after 24 h transfection with the miRNA 92a mimics were significantly reduced when compared with the control ( $P < 0.01$ ). However, the expression levels of TrkA were significantly higher ( $P < 0.01$ ) after 48 h transfection with miRNA 92a inhibitors when compared with the control. In conclusion, miRNA 92a promoted the proliferation and migration of human neuroblastoma cells through downregulation of TrkA, which suggested that miRNA 92a may be a potential target for human neuroblastoma treatment in the future.

### Biography

Suoqin Tang is a Pediatric Hematologist Oncologist working at Chinese PLA General Hospital in Beijing, China. He graduated from The Fourth Medical School in Xian in 1985, and has completed his 3 years Post-Doctoral training at Children's Hospital Los Angeles, University of Southern California in 1996. His research works is focused on target therapy of Neuroblastoma, he has published more than 10 papers outside China.

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