

MiR-181a-5p inhibits uveal melanoma development

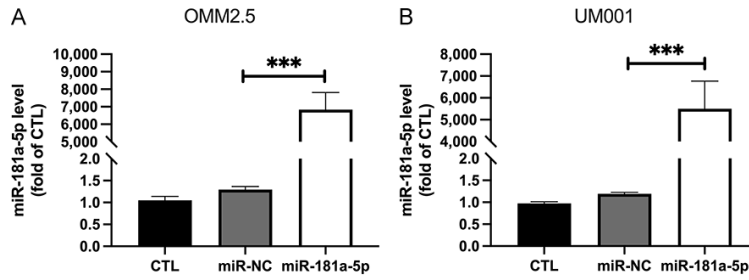


Figure S1. Level of miR-181a-5p in UM cell after transfection. Quantitative RT-PCR was performed to detect miR-181a-5p level in OMM2.5 (A) and UM001 (B) cells after transfected with 25 nM of miR-181a-5p. The relative miR-181a-5p levels are presented respectively. *** $P < 0.001$ vs. miR-NC.

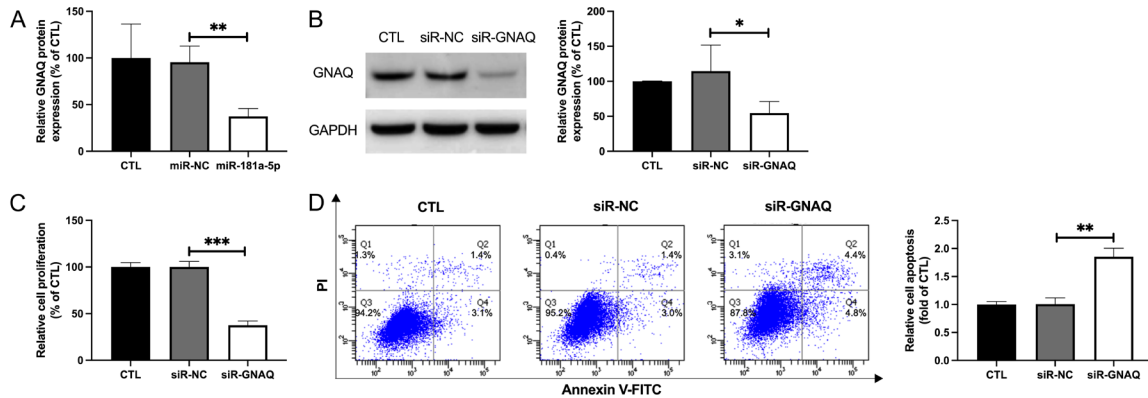


Figure S2. GNAQ silencing reduced cell proliferation and increased apoptosis of OMM2.5 cells. (A) Western blotting analysis of GNAQ protein in miRNA transfected OMM2.5 cells after treatment with 25 nM miR-181a-5p for 48 h using β -actin as loading control. ** $P < 0.01$ vs. miR-NC. (B) Western blot analysis of OMM2.5 cells transfected with siR-GNAQ or siR-NC for 48 h (left), and corresponding quantification shown as percentage of CTL (right). Cell proliferation (C) and cell apoptosis (D) were assessed and normalized to CTL. * $P < 0.05$, ** $P < 0.01$, *** $P < 0.001$ vs. siR-NC.

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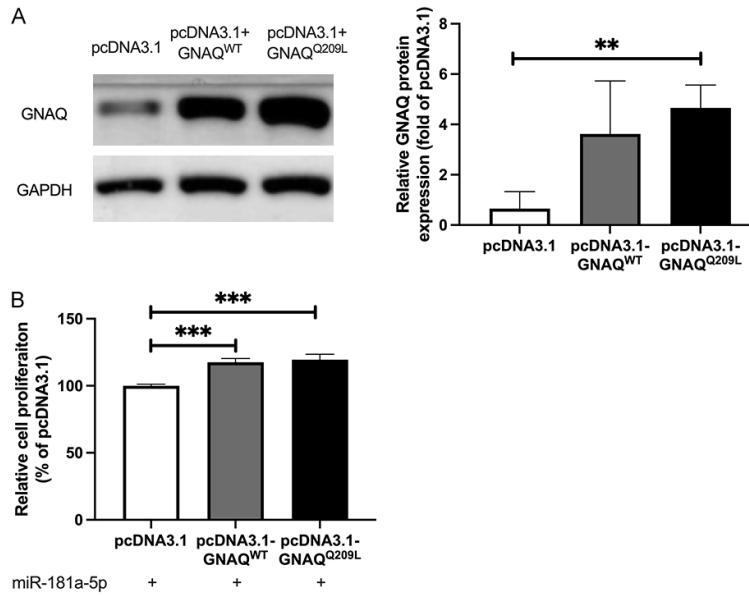


Figure S3. GNAQ overexpression reversed the effects of miR-181a on UM cells. (A) Overexpression plasmids of GNAQ wild type (GNAQ^{WT}) and GNAQ Q209L mutation (GNAQ^{Q209L}) were transfected into OMM2.5 cells for 48 h, and their protein levels were determined. $***P < 0.001$ vs. pcDNA3.1. (B) Cell proliferation of OMM2.5 cells was assessed after co-transfection with GNAQ overexpression plasmids and miR-181a-5p, values are normalized to miR-181a+pcDNA3.1 group. $**P < 0.01$, $***P < 0.001$ vs. miR-181a-5p+pcDNA3.1.

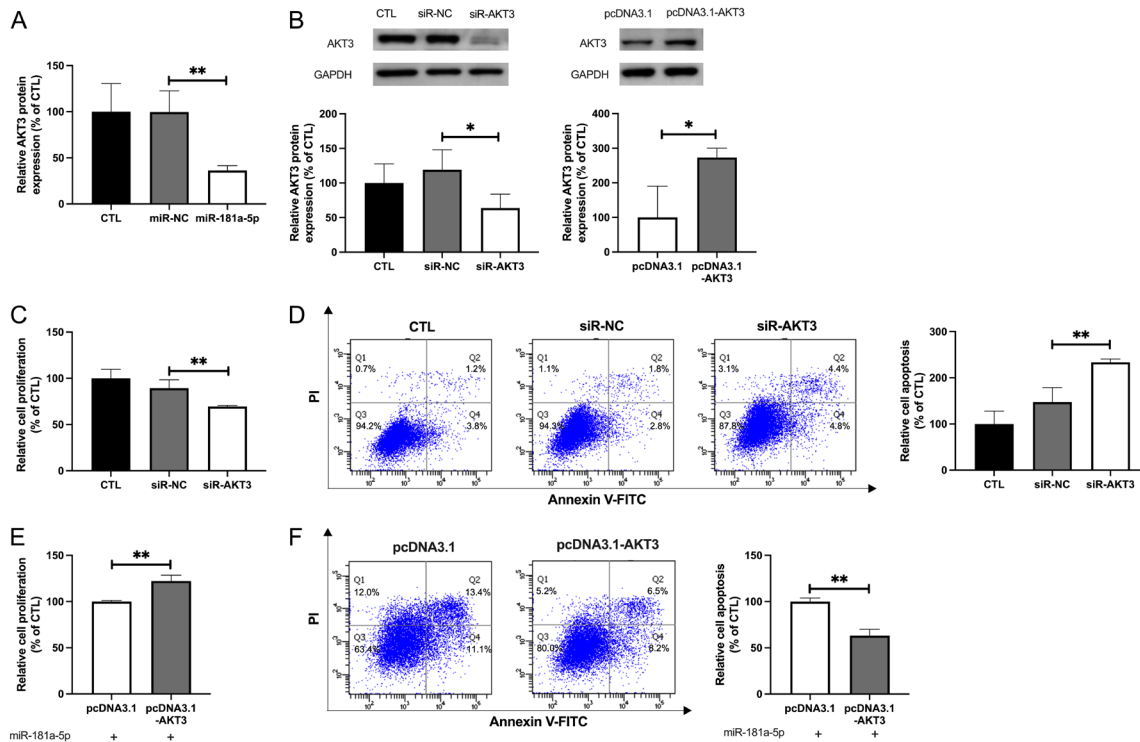


Figure S4. Regulation of Akt3 expression altered cell proliferation and apoptosis of OMM2.5 cells. (A) Western blotting analysis of AKT3 protein levels in OMM2.5 cells with or without transfection of miR-181a-5p. The relative AKT3 protein levels are presented as a percentage of CTL. $**P < 0.01$ vs. miR-NC. (B) OMM2.5 cells were transfected with siR-AKT3 or AKT3 overexpression plasmid for 48 h, and AKT3 protein levels were detected. The relative cell proliferation (C) apoptosis (D) of siR-Akt3 transfected OMM2.5 cells are presented. $**P < 0.01$ vs. siR-NC. After co-transfected with miR-181a and indicated overexpression plasmids, cell proliferation (E) and cell apoptosis (F) of OMM2.5 cells were determined and relative values are presented. $**P < 0.01$ vs. miR-181a-5p+pcDNA3.1.