**Supplementary figure legends**

**Supplementary Figure 1.** Knocking down STAT3 reduced the binding of miR-182-5p promoter to STAT3 protein**.** U87 cells were transfected with control siRNA (CTRL) or STAT3 siRNAs and ChIP assays were performed with anti-STAT3 antibody. The result DNAs were amplified by PCR with the primers for miR-182-5p promoter. The PCR products were analyzed on a 2% agarose gel. Normal rabbit IgG was used as a negative control.

**Supplementary Figure 2.** The effect of miR-182-5p on the activities of luciferase reporters harboring the miR-182-5p target sequences in 3'-UTR of *ARF4*, *CTTN* , *EDNRB* , *RASA1*, and *PCDH8* genes. HEK293T cells were transfected with control or miR-182-5p mimics and 3’-UTR luciferase reporter plasmids of the indicated genes. 48 hr after transfection, cells were lysed and reporter activities were measured using a Dual-luciferase system. Relative luciferase activities were calculated with Rluc/FLuc. Each error bar indicates the variation between the means of three independent experiments.

**Supplementary Figure 3.** The effects of STAT3-miR-182-5p-PCDH8 axis in apoptosis, cell-cell adhesion and cell-matrix adhesion. **(**A**)** U87 cells were transfected with STAT3 siRNA or control siRNA alone or in combination with miR-182-5p mimics or PCDH8 siRNA for 48 hr. Thenthe apoptosis of the cells was quantified by FACS-based Annexin V staining. Data are presented as mean ± s.d. \*\*\*, p<0.001; NS, non-significant. (B) HFU251 cells were treated with WP1066 (3 µM) or without WP1066 (control) for 48 hr. Thenthe apoptosis of the cells was quantified by FACS-based Annexin V staining. Data are presented as mean ± s.d. \*\*, p<0.01; NS, non-significant. (C) U87 cells were transfected with control mimics, miR-182-5p mimics, control siRNA or PCDH8 siRNA for 48 hr. Thenthe apoptosis of the cells was quantified by FACS-based Annexin V staining. Data are presented as mean ± s.d. NS, non-significant. (D) HFU251 cells were transfected with STAT3 siRNA or control siRNA alone or in combination with miR-182-5p mimics or PCDH8 siRNA. Cells were plated directly onto a 24-well plate coated with 0.7% agar and then cultured for 16 hr. Cell aggregates were evaluated in an inverted microscope. **(**E**)** HFU251 or U87 cells were transfected with STAT3 siRNA or control siRNA alone or in combination with miR-182-5p mimics or PCDH8 siRNA for 16 hr. Cell-matrix adhesion was examined using the CytoSelect 48-Well Adhesion Assay Kit (left panel) andwas quantified (right panel). Data are presented as mean ± s.d from three independent assays.