**Figure S1** Cell communication analysis between high and low risk groups. (A) A heatmap displaying the differential cell communication numbers and strengths between high- and low-risk groups, with red indicating stronger cell communications in the high-risk group and blue indicating stronger cell communications in the low-risk group. (B) A heatmap illustrating the relative strength of cell communications on different pathways between high- and low-risk groups. (C) A chart identifying the relative strength of cell populations acting as outgoing or incoming signal roles. (D) A bubble chart demonstrating MIF-related ligand-receptor pairs between tumor cells/PanIN cells and macrophages/NK cells. (E) A chord plot showcasing MIF-related ligand-receptor pairs between tumor cells, PanIN cells, macrophages, and NK cells in high- and low-risk groups.