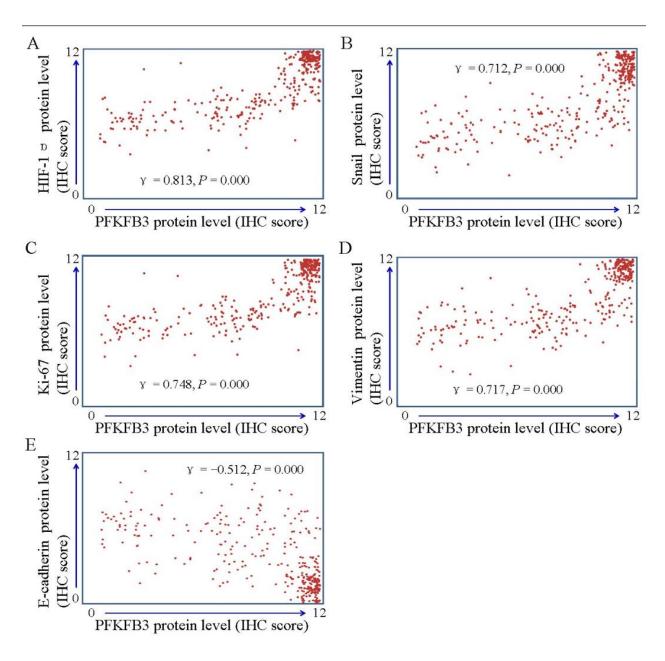
Supplementary Figure 1. Correlation of PFKFB3 expression level with HIF-1 $\alpha$ , Ki-67, and epithelial–mesenchymal transition (EMT) markers. IHC was used to determine the protein expression level of PFKFB3 and HIF-1 $\alpha$ , Ki-67, EMT markers E-cadherin, Vimentin, and Snail. The IHC score of PFKFB3 is plotted with the IHC score of HIF-1 $\alpha$ , Ki-67, EMT markers (A-E). Note that PFKFB3 expression level is negatively correlated with E-cadherin but positively correlated with HIF-1 $\alpha$ , Ki-67, Vimentin, and Snail.



**Supplementary Figure 2.** NF-kB pathway was involved in PFKFB3-induced the expression of MMPs in GC cells. Western blot showed that pretreatment with helenalin in SGC-7901 cells could abolish upregulation of MMP2, MMP9 and MMP14 induced by PFKFB3 overexpression (**A**). Helenalin treatment could downregulate the expression of MMP2, MMP9 and MMP14 in AGS cells, which was consistent with that induced by PFKFB3 knockdown expression (**B**).

