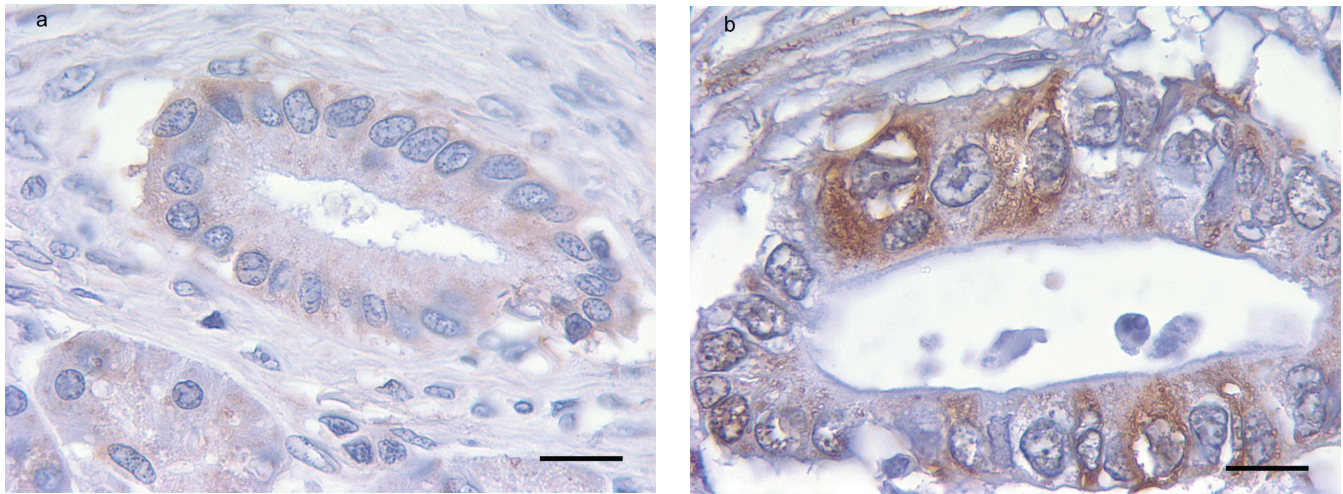


The vacuolar-ATPase (V-ATPase) modulates matrix metalloproteinase (MMP) isoforms in human pancreatic cancer

Chuhan Chung, Christopher C Mader, John Schmitz, Jorunn Atladottir, Phillip Fitchev, Mona Cornwell, Anthony J Koleske, Susan Crawford, Fred Gorelick



Supplementary Figure 1. Increased intensity and loss of polarized staining for the v-ATPase V_1E subunit characterizes high grade from low grade PanIN lesions. An early low-grade PanIN lesion (**a**) demonstrates basally-oriented nuclei and increased N to C ratio with central clearing of the duct. A high-grade PanIN (**b**) reveals increased V_1E labeling intensity and a diffuse staining pattern. Scale bar: 80 μm .