

**Mechanistic insight into the function of the C-terminal PKD domain of the collagenolytic serine protease deseasin MCP-01 from deep-sea *Pseudoalteromonas* sp. SM9913: Binding of the PKD domain to collagen results in collagen swelling but does not unwind the collagen triple helix**

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Running title: PKD domain swells collagen but does not unwind the collagen triple helix

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## Supplementary Data

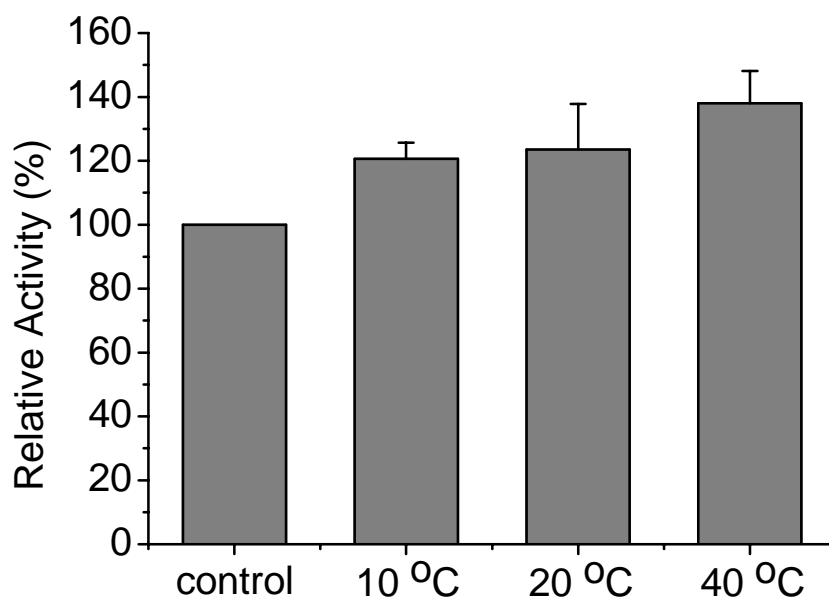


Fig. S1. Effect of PKD pretreatment at different temperatures on the collagenolytic efficiency of the catalytic domain of MCP-01. Insoluble type I collagen fiber (5 mg) was first incubated in the absence and presence of the PKD domain (1 nmol) in 50 mM Tris-HCl (with 0.36 mM CaCl<sub>2</sub>, pH 7.5) for 5 h at different temperatures, and then 200 pmol of the catalytic domain (CD) was added and further incubated for 5 h at 40 °C for activity assay. Enzyme activity was determined as mentioned in Experimental Procedures. Column 1: the activity of CD toward the collagen without PKD treatment; Column 2: the activity of CD toward the collagen pretreated with the PKD domain at 10 °C; Column 3: the activity of CD toward the collagen pretreated with the PKD domain at 20 °C; Column 4: the activity of CD toward the collagen pretreated with the PKD domain at 40 °C.