Supplementary information

The unique proline-rich domain regulates the chaperone function of AIPL1

Jing Li[1], Gabriel Zoldak[2,3], Thomas Kriehuber[1], Joanna Soroka[1], Franz Schmid[2], Klaus Richter[1] and Johannes Buchner[1]

[1]Center for Integrated Protein Science at the Department Chemie, Technische Universität München, Germany

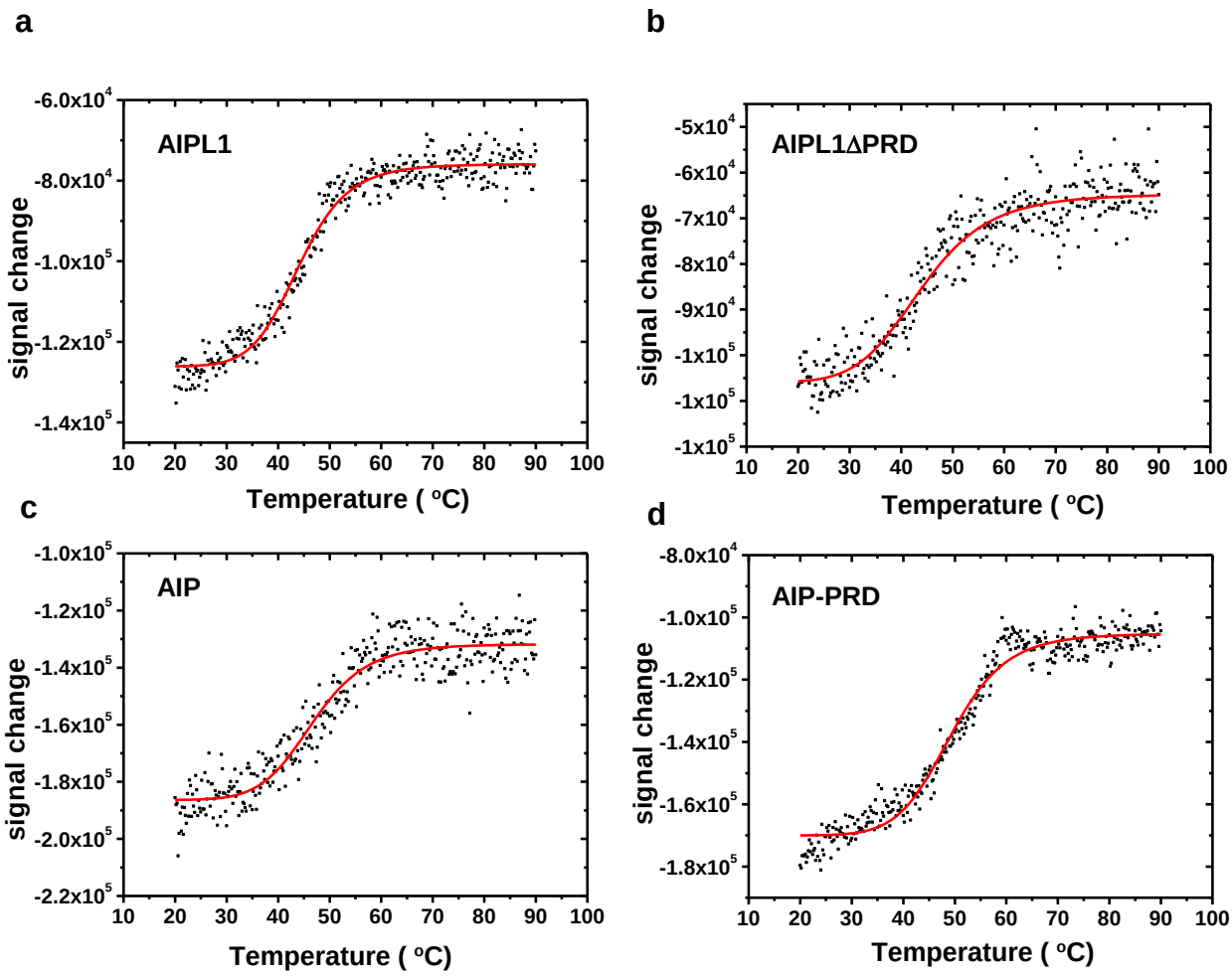
[2]Laboratorium für Biochemie, Universität Bayreuth, D-95440 Bayreuth, Germany

[3] Present address: Physik Department E22, Technische Universität München, Germany

To whom correspondence should be addressed: Center for Integrated Protein Science at the Department Chemie, Technische Universität München, Lichtenbergstrasse 4, 85747 Garching, Germany. Tel: 49-89-289-13341; Fax: 49-89-289-13345; Email: johannes.buchner@tum.de

Supplementary Fig. 1: Thermal stability of AIP, AIPL1 and their variants

To assess the stability of the different proteins, temperature-induced unfolding experiments were performed (a-d). Temperature-induced unfolding was monitored by far UV-CD spectroscopy at a fixed wavelength with a heating rate of 20 °C/h. Data were fitted to a Boltzmann function to obtain transition midpoints.



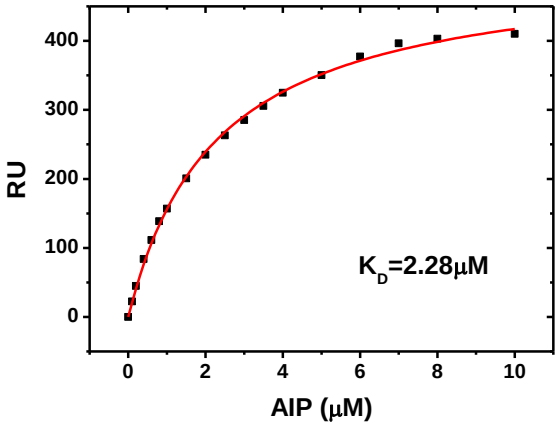
Supplementary Fig. 2: The proline-rich domain is a negative regulator of Hsp90 interaction.

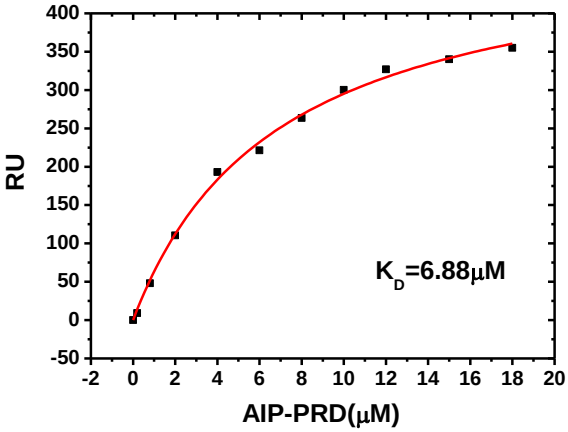
a. Determination of the affinity of AIP to Hsp90 by SPR. The K_D of AIP to hHsp90 was calculated to be 2.28 µM based on injections with different concentration of AIP onto a human Hsp90-coated CM5 chip

b. Determination of the affinity of AIP-PRD to Hsp90 by SPR. The K_D of AIP-PRD to hHsp90 was calculated to be 6.88 µM based on injections with different concentrations of AIP-PRD onto a human Hsp90-coated CM5 chip.

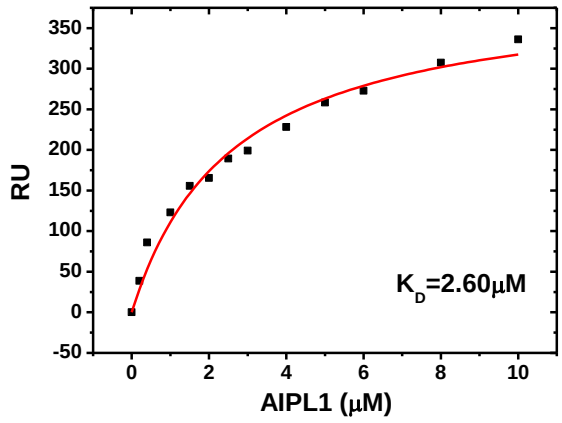
c. Determination of the affinity of AIPL1 to Hsp90 by SPR. The K_D of AIPL1 to hHsp90 was calculated to be 2.60 µM based on injections with different concentration of AIPL1 onto a human Hsp90-coated CM5 chip

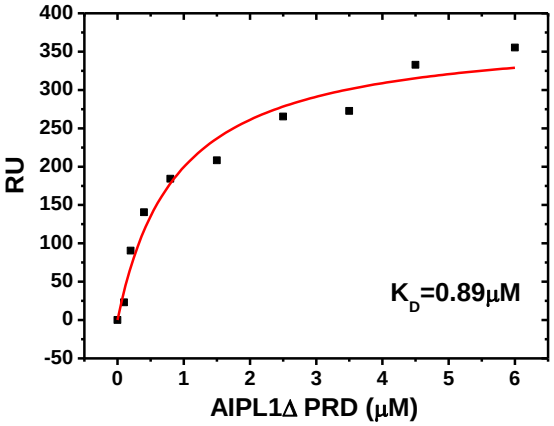
d. Determination of the affinity of AIPL1ΔPRD to Hsp90 by SPR. The K_D of AIPL1ΔPRD to hHsp90 was calculated to be 0.89 µM based on injections with different concentrations of AIPL1ΔPRD onto a human Hsp90-coated CM5 chip.


RU
AIP (μM)
K_D=2.28μM


RU
AIP-PRD(μM)
K_D=6.88μM

c


RU
AIPL1 (μM)
K_D=2.60μM


RU
AIPL1Δ PRD (μM)
K_D=0.89μM