

Unraveling and modulating the action of assembly chaperones.



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Molecular chaperones have been traditionally thought to assist the folding of newly synthesized and stress-denatured polypeptide chains but recent works revealed the existence of another class of molecular chaperones favoring the assembly of large molecular complexes. In particular, dedicated chaperones were discovered regulating the assembly of the nucleosome and the proteasome.[1] Using an integrated approach combining NMR, crystallography, ITC, biochemistry and genetics, we unraveled the molecular action mode of two major chaperones, the proteasome chaperone Hsm3 (High Spontaneous Mutability 3),[2] and the histone chaperone Asf1 (Anti-Silencing Function 1). [3-6]

[1] Ellis TIBS **2006**, 31, 394-401

[2] Barrault *et al.* Ochsenbein, PNAS **2012**, 109, E1001-10

[3] Jiao *et al.* Ochsenbein, PNAS **2012**, 109, 2866-71

[4] Agez *et al.* Ochsenbein Structure **2007**, 15, 191-199

[5] Mousson, Ochsenbein, Mann, Chromosoma **2007**, 116, 79-93

[6] Mousson *et al.* Ochsenbein, PNAS **2005**, 102, 5975-5980