

# Séminaire

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**Conférencier invité**

Vendredi 11 janv. 2013

**A 11h - Salle des séminaires de l'IBS**

**Par Olivier Genest**

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## The Hsp90 chaperone of *E. coli*: mechanism of action and identification of a client-binding region

Molecular chaperones are proteins that assist the folding, unfolding and reactivation of other proteins. In stress conditions, they are crucial as proteins become misfolded or aggregated. The Hsp90 (heat shock protein 90) proteins are a highly conserved family of ATP-dependent chaperones. In eukaryotes, Hsp90 is essential and participates in the remodeling of hundreds of client proteins with the assistance of many cochaperones. In *E. coli*, although Hsp90 is not essential for growth, its deletion results in slow growth at high temperature and increased protein aggregation in heat-stressed cells. To explore the mechanism of action of *E. coli* Hsp90 (Hsp90<sub>Ec</sub>), we developed an *in vitro* protein remodeling assay using model substrates and purified chaperones. We found that Hsp90<sub>Ec</sub> remodels denatured substrates in collaboration with another chaperone, the DnaK chaperone system. We also used a novel phenotype associated with Hsp90<sub>Ec</sub> overexpression in *E. coli* to identify a client-binding region of Hsp90<sub>Ec</sub>.

**Hôte : J.M. Jault (IBS/M &P)**