Soutenance

THESE

Mardi 29 Novembre 2022 à 09h

Salle des séminaires IBS

www.ibs.fr

Institut de biologie structurale - 71 avenue des Martyrs CS 10090 38044 Grenoble Cedex 9 - T.+33 (0)4 57 42 85 00

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Etude fonctionnelle et structurale de la protéine d'immunité du bactériophage T5

Thèse de Doctorat de la Communauté Université Grenoble Alpes

Phage infection is triggered by host recognition thanks to the Receptor Binding Protein binding to its receptor at the surface of the cell: this interaction allows viral DNA to be delivered into the host cytoplasm. This first step of infection is followed by viral replication and eventually liberation of the new virions. During this vulnerable time, phages protect the new viral factory from over-infection. In coliphage T5, protection is mediated by a periplasmic lipoprotein, Llp, targeted to the inner leaflet of the outer-membrane, which binds the phage receptor FhuA. Llp biological function is probably also to prevent the inactivation of progeny phage by active receptors present in outer-membrane debris of lysed cells, thereby increasing their chances of infecting a new host. We aim to decipher the mechanisms of T5 host inhibition by Llp at the molecular level. We over-expressed Llp in an acylated (Ac-Llp) and soluble (Sol-Llp) form in quantities compatible with biochemical and structural studies, and solved Sol-Llp (7.5 kDa) structure by NMR. We could show that Ac-Llp protects the overexpressing strain from T5 infection and we characterized the FhuA:Ac-Llp complex by biochemical and biophysical methods.

L'accès au campus EPN nécessite un avis de rendez-vous, merci d'adresser votre demande à ibs.seminaires@ibs.fr (au moins 48h à l'avance)

Cette soutenance sera retransmise par visioconférence :

https://univ-grenoble-alpes-fr.zoom.us/j/99104576191?pwd=QmNmbUE3ekJrVHFzd0F1QTErWm1aQT09

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