Role of lipocyclopeptides PAXs from the entomopathogenic bacterium *Xenorhabdus*

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Mots-Clés (5 max) : specialized metabolites, NRPS, entomopathogenic bacteria, nematodes, microbiota

Doctorant/post-doctorant ☑ Oui ☐ Non

Résumé (10-15 lignes max, calibri 12, interligne 1,5) :

Microorganisms have to produce a variety of molecules to cope with environmental changes. *Xenorhabdus* is an entomopathogenic bacterium involved in symbiotic relationship with *Steinernema* nematodes. *Xenorhabdus* also produces different specialized metabolites during its complex life cycle: i) pathogenic phase within insect larvae, ii) necrotrophic phase in the insect cadaver, and iii) symbiotic phase with its nematode host (Tobias et al., 2017). PAXs (Peptide Antimicrobial from *Xenorhabdus*) are a family of NRPS lipocyclopeptides produced by almost all *Xenorhabdus* strains (Gualtieri et al., 2009; Fuchs et al., 2011). Besides their antimicrobial activities against Gram-positive bacteria and phytopathogenic fungi, little is known about the ecological role of PAXs in the life cycle of *Xenorhabdus*, which this work aims to investigate. The involvement of PAXs in motility and biofilm formation has been demonstrated *in vitro*. Reassociation of aposymbiotic nematodes with a PAX defective mutant of *Xenorhabdus* resulted in weaker nematode progeny production. Overall, these results suggest that PAXs could be adaptation metabolites to a changing environment from insect cadaver to the nematode and/or nutritional deprivation in the insect cadaver.

Références:

