

M2 – SPECIALITE ECOPHYSIOLOGIE ECOTOXICOLOGIE

Formulaire à compléter pour accueillir dans son équipe un étudiant de M2

Laboratoire d'accueil du Master (Affiliation administrative – CNRS, INSERM... et numéro de l'unité)

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Titre du sujet : Termites, a unique model to explore phenotypic plasticity: characterization of novel Carbohydrate Responsive Element Binding Protein signaling

Bref descriptif : (10-12 lignes 1000-1500 caractères ; un descriptif plus détaillé peut être joint sous forme de fichier pdf ou de lien web)

In the past few years, important progress has been made regarding the understanding of the structure, function and regulatory role of the transcription factor carbohydrate response element-binding protein (ChREBP) in mammalian hepatocytes, adipocytes and pancreatic beta-cells, where it contributes significantly to the regulation of glucose sensing and /or de novo fatty acid synthesis. More recently, ChREBP has emerged as a potential mediator of glucose-driven proliferation in normal and malignant cells and a direct correlation between ChREBP protein levels and cell proliferation rate has been reported in several cell types in response to mitogenic signals. The central issue of this project is to understand the molecular regulatory mechanisms underlying the differentiation of genetically identical termites either into reproductive or into non-reproductive individuals (phenotypes). We will address questions related to the exocrine signalling of reproductive status by the present reproductive, controlling the development of steriles into reproductives, based on the analysis of the transcriptional program driven by ChREBP with a particular focus on the metabolome. To reach these goals, we will test the biological function of ChREBP using a combination of genetic analyses, molecular biology and analytical chemistry of chemical profiles in reproductives and sterile individuals associated with behavioral bioassays

Publications : (indiquez 3-5 publications récentes en rapport avec le sujet)

Lina Sabra Makke, Micol Maritana, Julien Planchais, Marie Boutant, Jean-Paul Pegorier, Patrick C. Evend, Mireille Vasseur-Cognet* and Pascale Bossard*. Hypothalamic ventromedial COUP-TFII protects against hypoglycemia associated autonomic failure. **PNAS**, 2013, 110 (11) :4333-8 (*co-auteurs)