

Séminaire de Biologie des Plantes

Les séminaires ont lieu sur le Campus Montpellier SupAgro/INRA de La Gaillarde
(2, place P. Viala Montpellier)

Contact IBIP :

Sabine Zimmermann (zimmerma@supagro.inra.fr)

Marc Lepetit (lepetit@supagro.inra.fr)

Christine Granier (granier@supagro.inra.fr)

Corinne Dasen (dasen@supagro.inra.fr)

Chantal Baracco (baracco@supagro.inra.fr)

Jeudi 03 juin 2010
Amphi 206 (Cœur d'Ecole) à 14h00

Alain Vavasseur

(Laboratoire des Echanges Membranaires et Signalisation – CEA Cadarache)

Role of three HMA transporters in metal allocation and detoxification in *Arabidopsis*

The P_{1B}-ATPase subfamily in *Arabidopsis* comprises eight members (HMA1-8) predicted to be involved in the translocation of monovalent, Cu⁺/Ag⁺, or divalent, Zn²⁺/Cd²⁺/Pb²⁺/Co²⁺, cations. While the monovalent transporters are present in all living organisms, divalent transporters are absent in animals. Our work is focused on the role of HMA1, HMA3 and HMA4 all predicted to be divalent cation transporters. In plants these three transporters are located to different intracellular membranes and play different roles. HMA1 is the most atypical member of this family since it lacks the canonical MBDs (Metal Binding Domains) present in all other members of the family. We have shown that HMA1 is located to the chloroplast envelope and participates in copper influx into the chloroplast for its delivery to detoxifying enzymes. The two others, HMA3 and HMA4, are involved in Zn homeostasis. HMA4 is located at the plasma membrane and participates in Zn and Cd translocation from the roots to the shoot while HMA3 is at the tonoplast and drives vacuolar sequestration of Zn and Cd. Further insights in the characterization of these transporters will be discussed.

CONTACT :

Rémy Gibrat

Équipe *Canaux ioniques*

Institut de Biologie Intégrative des Plantes

Laboratoire de Biochimie et Physiologie Moléculaire des Plantes

Agro-M/INRA/CNRS/UM2 UMR 5004

2, Place Viala
F-34 060 Montpellier Cedex 1
FRANCE

<http://www1.montpellier.inra.fr/ibip/bpmp/equipes/canaux.htm>

gibrat@supagro.inra.fr

Phone: + 33 (0)4 99 61 24 95

Fax : + 33 (0)4 67 52 57 37

Séminaires à venir :

- Jeudi 24 juin : Jerzy Paszkowski, (contact Claire Corratgé, corratge@supagro.inra.fr)
- Jeudi 01 juillet : Dirk Becker, (contact Tou Cheu Xiong, xiong@supagro.inra.fr)