

分子生物学科セミナー

理化学研究所の Jenny Mortimer 博士をお招きして、学科セミナーを開催します。ご専門は、植物細胞壁多糖類の生合成・分解ですが、今回は、スフィンゴリピドに関する研究についてもご紹介頂きます。

日時：2014年4月23日（水）16：20～

場所：理学部3号館2階 11番教室

演者：Jenny Mortimer 博士（理化学研究所）

Breaking down walls: unexpected outcomes in the quest for improved biomass

Abstract: Issues such as climate change, fuel security and diminishing fossil fuel reserves have led to an increased interest in alternative sources of energy. In particular, one important problem is how to replace petroleum products with a renewable liquid transport fuel ("biofuel"). Current biofuels on the market are derived from the fermentation of plant soluble sugars e.g. maize starch or sugar cane sucrose into ethanol. However, both of these plant sugars are also an important global food source, and large-scale utilisation for food production has proved controversial. An alternative approach is to use the sugars locked up in the polysaccharides of the plant cell wall. The cell wall forms the majority of plant biomass, but the components are complex and difficult to break down to their monosaccharide components, and their structure and synthesis poorly understood.

Glycosylation, unlike protein or nucleic acid biosynthesis, has no obvious template, and yet assembly isn't random. Moreover, misglycosylation events can have serious impacts on plant growth and development. My research aims to understand how the flow of substrates for glycosylation is controlled, how they are assembled into polymers, and how these polymers are integrated into the cell wall. Alongside this, I am attempting to integrate this knowledge in order to improve strategies for biomass deconstruction. This has also led me to work on associated biosynthetic pathways, such as the sphingolipid glycosylation, which occurs in the same organelle (the Golgi) and requires the same substrates, but seems to utilise different substrate pools.

Ref: Mortimer et al. (2013) *Plant Cell*

セミナー後、第3会議室にて簡単な懇親会を開きます。

こちらもぜひご参加ください。

問い合わせ先：円谷陽一