APC as an entry point to study small molecule regulation of the cell cycle

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The anaphase-promoting complex/cyclosome (APC/C) is a multi-subunit E3 ubiquitin ligase that plays a major role in the progression of the eukaryotic cell cycle. This unusual protein complex targets key cell-cycle regulators, such as mitotic cyclins and securins, for degradation via the 26S proteasome by ubiquitination, triggering the metaphase-to-anaphase transition and exit from mitosis. The identification of the complete set of genes encoding subunits of the APC in *Arabidopsis* suggests that the basic processes controlled by proteolysis mediated by ubiquitin in plants are similar to those of other organisms. However, results from several groups indicate that the APC has other specific functions in the regulation of plant development.

During the last years, several molecular-biology tools have been extensively used in scientific research for identifying new function of proteins and metabolites. Still, the identification of metabolites, specially which control the cell cycle is not trivial and is characterized by piecemeal progress, especially in plants. In this seminar, we will discuss the methodologies that we are using to identify and characterize metabolites that bind to the APC in the model plant *Arabidopsis*, and to potentially define their roles in plant development.

Biography

Nubia Barbosa Eloy has her expertise in Plant Development and Cell Cycle, especially in improving the ways to have better crop and production. During her academic life, she has published several peer reviewed papers about plant growth and development. Her main interest is to study the plant growth to better enhance crop productivity, using cutting edge techniques to achieve her goal.

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