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Protein ubiquitination in auxin signaling and transport

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Stellingen

Behorende bij het proefschrift

Protein ubiquitination in auxin signaling and transport

1. Auxin-induced interaction with SCF^{TIR1} leads to ubiquitination and proteasomal degradation of Aux/IAA proteins.

Dharmasiri *et al.* (2005) *Nature* (435) 441-445

Kepinski and Leyser (2005) *Nature* (435) 446–51

This thesis

2. An ubiquitinated protein is not necessarily degraded by the proteasome, and the proteasome does not necessarily degrade only ubiquitinated proteins.

This thesis

Asher, *et al.* (2005) *Genes Dev.* (19)316-321

Chen, *et al.* (2007) *Mol. Cell* (26)843–852

Mukhopadhyay and Riezman (2007) *Science* (315)201-205

3. The activity and stability of the BODENLOS/IAA12 protein is regulated by phosphorylation at the PRSS motif between the conserved domains I and II.

This thesis

4. The observation that the PID kinase is ubiquitinated *in vivo* suggests that the BTB domain protein PINOID BINDING PROTEIN 2 is part of a E3 ubiquitin ligase complex that is involved in its regulation.

This thesis

Zago *et al.*, 2006

Robert *et al.*, 2008

5. Unraveling the functional diversity of the ubiquitin signal is the task for a future Nobel Prize winner.

Weissman, A.M. (2001), *Nature Reviews Mol. Cell Biol.* (2)169-178

Smalle and Vierstra (2004), *Annu. Rev. Plant Biol.* (55) 555–90

Glickman and Ciechanover (2002) *Physiol. Rev.* (82):373-428.

6. Although hormone responsive promoters such as the *DR5* promoter have been extremely informative reporters to study hormone action, we still need markers to detect the (sub)cellular concentrations of the hormones.

Ulmasov, *et al.* (1997) *Plant Cell* (9)1963-1971

Sabatini *et al.* (1999) *Cell* 99(5)463-472

Heisler *et al.* (2005) *Curr Biol* (15)1899–1911

7. The scaffold function of the COP9 signalosome is emerging as an important feature bringing together kinases, substrates, E3 ligases and the proteasome.

Harari-Steinberg and Chamovitz (2004) *Curr Protein Pept Sci*, (5)185-189

8. Describing the molecular components of the essential individual biological processes is a matter of time; the real challenge will be to understand how they work all together.

Vanneste and Friml (2009) *Cell* 136(6)1005-1016

9. Biology is just a lot of complex chemistry, which is just a lot of complex physics, which is just complex mathematics.

10. Scientists dedicate their lives to describe the laws of nature by doing experiments that are ruled by a much higher law, Murphy's Law.

11. In a world that lives under the regime of Monetarism everybody becomes a worker for the international banks' profit.

12. Changing yourself is easier than changing the world and it is a very good start.

Felipe dos Santos Maraschin

June 2009

Verwijderd: —Pagina-einde—