Regulation of ORA59, a key modulator of disease resistance in Arabidopsis

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Stellingen

behorende bij het proefschrift

Regulation of ORA59, a key modulator of disease resistance in Arabidopsis

1. Relocalization of ORA59 from the cytoplasm to the nucleus alone is not sufficient for transcriptional activation of target genes.

This thesis

2. ORA59 is repressed by ZFAR1, but a complex with other repressor proteins is very likely to exist.

This thesis
Pauwels et al. (2010) Nature 464, 788-791

3. The complex cross-talk network of plant defense responses associated with genetic redundancy increases the challenge to unravel the mechanisms of disease resistance.

This thesis
Pieterse et al. (2009) Nat. Chem. Biol. 5, 308-316

4. The protein instability of ORA59 is a major limiting factor for discovery of post-translational mechanisms affecting ORA59 activity.

This thesis

5. Published articles always need to be carefully read and considered, as mistakes can easily arise.

Wasternack (2007) Ann. Bot. 100, 681-697
Sun et al. (2007) Plant Cell Physiol. 48, 1148-1158
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6. Inhibition of the activity of transcription factors until perception of an appropriate stimulus represents an important regulatory step in animal and plant innate immunity and is achieved via highly similar regulatory mechanisms at the protein level.

Hayden and Ghosh (2008) Cell 132, 344-362
Despres et al. (2003) Plant Cell 15, 2181-2191
Chini et al. (2007) Nature 448, 666-671
Thines et al. (2007) Nature 448, 661-665

7. Not every protein can be analyzed for protein-protein interactions using the currently available methodologies.

Luban and Goff (1995) Curr. Opin. Biotech.6, 59-64
Rigaut et al. (1999) Nat. Biotechnol. 17, 1030-1032

8. Large efforts to sequence whole genomes of various organisms will not deliver information as fast and to the extent as expected; this can be extrapolated from organisms that have been fully sequenced in the last decade.

The Arabidopsis 2010 project goals: Somerville and Dangl (2000) Science 290, 2077-2078

9. Detailed planning gives a better perspective of the future but incorporates the intrinsic risk of lack of innovation.

10. Creativity in science is often limited by the number of successful attempts.

11. Trees can teach us the hard lesson of patience whereas grass shows us the power of persistence.

June 24th, 2010 Ana Paula Körbes