

On the Cover: The plant circadian clock has emerged as an important regulator of plant defense. This cover image shows a generalist herbivore *Spodoptera littoralis* feeding on a wild tobacco *Nicotiana attenuata* leaf. Li et al. found that silencing of the circadian clock gene *ZEITLUPE* (*ZTL*) attenuates nicotine biosynthesis and thereby, resistance to *S. littoralis*. Furthermore, *ZTL* directly interacts with JASMONATE ZIM domain (JAZ) proteins, a component of jasmonate co-receptor, thereby regulating a JAZ-MYC2 module that is required for nicotine biosynthesis. Picture by Dr Danny Kessler, Max Planck Institute for Chemical Ecology.

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- [CC-BY] Identification of Functional Single-Nucleotide Polymorphisms Affecting Leaf Hair Number in *Brassica rapa*.
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- [OPEN] Development Defects of Hydroxy-Fatty Acid-Accumulating Seeds Are Reduced by Castor
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OsFDML1, a rice homolog of Arabidopsis FACTOR OF DNA METHYLATION1, is directly targeted by OsMADS6 and regulates floral organ specification and meristem determination in rice.

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Messenger RNA is degraded as it moves through the tomato phloem, and the mobility of a transcript cannot be reliably predicted based on its abundance in the Nicotiana benthamiana leaf or on whether it harbors a tRNA-like structural motif.

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[OPEN] Boron-Dependent Translational Suppression of the Borate Exporter *BOR1* Contributes to the Avoidance of Boron Toxicity. Izumi Aibara, Tatsuya Hirai, Koji Kasai, Junpei Takano, Hitoshi Onouchi, Satoshi Naito, Toru Fujiwara, and Kyoko Miwa

Upstream open reading frames in the 5' untranslated region of BOR1, a borate transporter, control boron-dependent translational suppression that, alongside BOR1 degradation, contributes to the avoidance of boron toxicity in plants.

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The *MicroRNA390*/TRANS-ACTING SHORT INTERFERING RNA3 Module Mediates Lateral Root Growth under Salt Stress via the Auxin Pathway. Fu He, Changzheng Xu, Xiaokang Fu, Yun Shen, Li Guo, Mi Leng, and Keming Luo

The miR390/TAS3/ARF4 module is involved in the regulation of lateral root development under salt stress in poplar by auxin signaling.

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[OPEN] *Medicago* Plants Control Nodulation by Regulating Proteolysis of the Receptor-Like Kinase DMI2. Huairong Pan, Christina Stonoha-Arther, and Dong Wang

The symbiotic receptor DMI2 in Medicago undergoes constitutive degradation by the proteasome, which is blocked upon rhizobia inoculation.

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[OPEN] Auxin Efflux Carrier ZmPGP1 Mediates Root Growth Inhibition under Aluminum Stress. Maolin Zhang, Xiaoduo Lu, Cuiling Li, Bing Zhang, Chunyi Zhang, Xian-sheng Zhang, and Zhaojun Ding
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[CC-BY] ZEITLUPE in the Roots of Wild Tobacco Regulates Jasmonate-Mediated Nicotine Biosynthesis and Resistance to a Generalist Herbivore. Ran Li, Lucas Cortés Llorca, Meredith C. Schuman, Yang Wang, Lanlan Wang, Youngsung Joo, Ming Wang, Daniel Giddings Vassão, and Ian T. Baldwin
ZEITLUPE in the roots of Nicotiana attenuata interacts with JASMONATE ZIM domain proteins and subsequently regulates JA-mediated nicotine biosynthesis and herbivore resistance.

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[CC-BY] Auxin Contributes to the Intraorgan Regulation of Gene Expression in Response to Shade. Sujung Kim, Nobuyoshi Mochizuki, Ayumi Deguchi, Atsushi J. Nagano, Tomomi Suzuki, and Akira Nagatani

Many genes are preferentially up-regulated by shade stimulus in the vasculature of Arabidopsis thaliana cotyledons, some of which are regulated by newly synthesized auxin in the mesophyll and/or epidermis.

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