



News Ticker Science

16.04.2024

+++ News Ticker Science #170 +++ CRISPR +++

New CRISPR method allows stable knock-in of large genes. Major progress on the CRISPR front. With the help of CRISPR/Cas, IPB scientists and French partners have succeeded in integrating larger DNA segments of several kilobases...[read more](#)

28.03.2024

+++ News Ticker Science #169 +++ Jasmonates +++

Arabidopsis F-box protein prolongs JA-based defense response. Commentary in Molecular Plant. As highly respected jasmonate experts, Claus Wasternack and Bettina Hause recently had the honor of commenting on an article by Zhang...[read more](#)

25.03.2024

+++ News Ticker Science #168 +++ Natural Products +++

Sesquiterpene lactones: A comprehensive review of fascinating natural products. IPB scientists, together with Dutch and Canadian partners, have recently published a review on sesquiterpene lactones (STLs), in which they discuss...[read more](#)

18.03.2024

+++ News Ticker Science #167 +++ Biotechnology +++

Out of the plant - into the yeast! Modern diterpene production through biotechnology. IPB scientists have recently generated a substantial library of diterpenoids by combinatorial biosynthesis. In a Golden Gate-based approach,...[read more](#)

15.02.2024

+++ News Ticker Science #166 +++ Protein Engineering +++

Machine learning-assisted LOV protein engineering. LOV photoreceptors control light-dependent processes such as phototropism in higher plants, but are also found in algae, fungi, and bacteria. They can perceive light below a...[read more](#)

26.01.2024



+++ News Ticker Science #165 +++ Cell Biology +++

Localization of the Arabidopsis Oleoyl Δ12 Desaturase FAD2. The amount of unsaturated phospholipids in plant cell membranes is crucial for the optimal function of these membranes, especially in processes of secretion and...[read more](#)

18.01.2024

+++ News Ticker Science #164 +++ Synthetic Biology +++

Multicolor pigments in tobacco. Transient expression of biosynthetic enzymes in the leaves of *Nicotiana benthamiana* is a very efficient and currently popular way to produce complex secondary metabolites quickly and in sufficient...[read more](#)

22.12.2023

+++ News Ticker Science #163 +++ Metabolomics +++

Metabolomics of Brazilian medicinal plant. IPB chemists and partners from Egypt and Brazil have recently carried out a comprehensive mapping of the metabolite variations of *Clusia minor* at different stages of development. They...[read more](#)

19.12.2023

+++ News Ticker Science #162 +++ Plant Defense +++

New immune modulator discovered in potato. Plant immune receptors recognize different structures when attacked by pathogens or herbivores, such as pathogen-associated molecular patterns (PAMPs), damage-associated molecular...[read more](#)

24.11.2023

+++ News Ticker Science #161 +++ Multicomponent Reaction +++

New adjuvants with multicomponent reaction. The production of effective adjuvants plays an important role in the development of new vaccines. These vaccine boosters enable a strong and targeted immune response that protects...[read more](#)

16.11.2023

+++ News Ticker Science #160 +++ Proteomics +++

Proteomics of growth and defense. The activation of plant defense mechanisms against pathogens is energy-intensive and therefore often occurs at the cost of growth and development. The molecular basis of this growth-defense...[read more](#)



10.11.2023

+++ News Ticker Science #159 +++ Phytohormones +++

Jasmonate inhibitor acts species-specific. Not every inhibitor works in every plant. Bettina Hause and iDiv scientists recently discovered this for the substance Jarin-1. The effect of the alkaloid, a cytisine derivative, was...[read more](#)

30.10.2023

+++ News Ticker Science #158 +++ Biocatalysis +++

UPOs see the light. Nonspecific peroxygenases (UPOs) are enzymes that can selectively and efficiently transfer oxygen to organic compounds. UPO-catalyzed reactions are therefore suitable for the production of a wide variety of...[read more](#)

27.10.2023

+++ News Ticker Science #157 +++ Metabolomics +++

The chemistry of premium chocolate. The processing of cocoa beans into chocolate is based on complex traditional drying, fermentation and roasting steps that are not standardized and therefore difficult to reproduce. In...[read more](#)

25.08.2023

+++ News Ticker Science #156 +++ Biocatalysts +++

First enantioselective UPO by enzyme engineering. Nonspecific peroxygenases (UPOs) of fungal origin catalyze a wide range of hydroxylation reactions very efficiently and require only hydrogen peroxide as cosubstrate. However,...[read more](#)

22.08.2023

+++ News Ticker Science #155 +++ Plant Stress +++

Xanthomonas effector protein causes degradation of plant microtubules. Xanthomonas, as plant pathogenic bacteria, cause enormous damage to crops and ornamentals. They infect more than 400 plant species, including wheat and...[read more](#)

01.08.2023

+++ News Ticker Science #154 +++ Metabolomics +++

Medicine from the desert date. In a team with partners from Egypt, IPB scientists have performed comparative metabolic profiling of the desert date *Balanites aegyptiaca*. The plant is common in Africa and the Middle East and is...[read more](#)



24.07.2023

+++ News Ticker Science #153 +++ Plant stress +++

New fluorescence sensor system: visualizing activation of CDPKs in real-time. Plants respond to pathogen attack, drought, nutrient deficiency, and many other challenges with a pronounced change in their intracellular calcium...[read more](#)

17.07.2023

+++ News Ticker Science #152 +++ Glandular Trichomes +++

Glandular trichomes: More light - more terpenoids. Glandular trichomes on the leaf surface of various plants produce some important secondary metabolites in large amounts, which makes them attractive as metabolic cell...[read more](#)

30.06.2023

+++ Newsticker Wissenschaft #151 +++ Wirkstoffe +++

Serotonin-Antagonist aus Pilzen isoliert. IPB-Wissenschaftlerinnen und -Wissenschaftler haben aus den Fruchtkörpern des Purpurfleckenden Klumpfußes, *Cortinarius purpurascens* Fr. drei bisher unbeschriebene Azepino-Indol-Alkaloide...[read more](#)
