



Implen Journal Club | January Issue

Welcome to our first issue of the #Implen #JournalClub in 2021.



We would like to start the year with a publication about soluble guanylyl cyclase, the major receptor for nitric oxide which plays a pivotal role in the research on angina pectoris, pulmonary hypertension and fibrotic diseases. Anne Ruehle, Christin Elgert, Michael Hahn, Peter Sandner and Soenke Behrends from University of Braunschweig and Bayer AG recently published their work in European Journal of Pharmacology and might help to better understand the treatment of such cardiovascular diseases. Protein concentration of sGC purified from Sf9 cells was determined by the Warburg-Christian method using a NanoPhotometer®.

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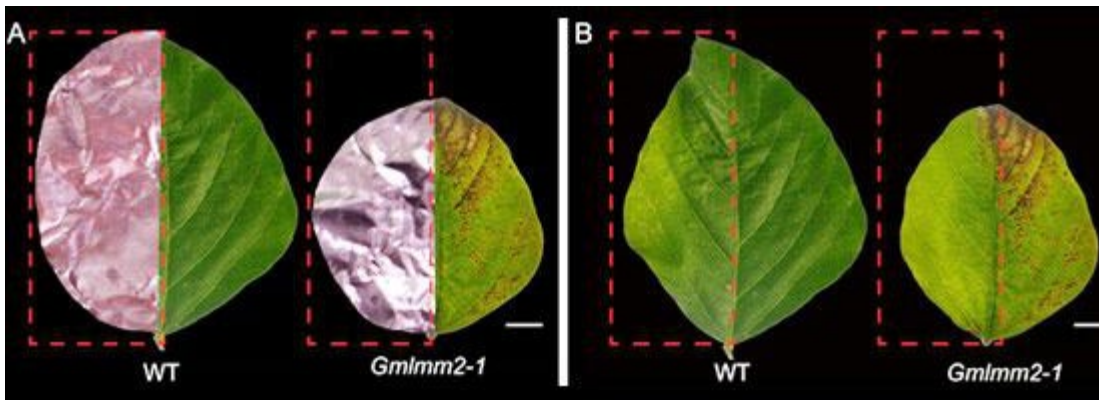
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We would also like to highlight the work of Srividya Arjuna, Rajesh Venkataram, Pandyanda Nanjappa Dechamma, Gunimala Chakraborty, Nishith Babu, Audrey D'Cruz, Giridhar Belur Hosmane and Anirban Chakraborty from K S Hegde Medical Academy and Nitte University who recently published their research on non-invasive detection of EGFR mutations by cell-free loop-mediated isothermal amplification in Nature Scientific Reports. Loop-mediated isothermal Amplification (LAMP) is increasingly used in molecular diagnostics as a field-friendly alternative to many other complex molecular methods and is steadily improved. The quantity of the cfDNA extracted was estimated using a NanoPhotometer®.

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Understanding the molecular mechanism of cell death is crucial for the study of host-pathogen interaction and effective resistance reaction like hypersensitive response in plants. Progress in this

field of research may lead to less susceptible crops, preventing adverse environmental effects and ultimately increasing yield. Jingjing Ma, Suxin Yang, Dongmei Wang, Kuanqiang Tang, Xing Xing Feng and Xian Zhong Feng from Chinese Academy of Sciences are therefore featured in today's #Implen #NanoPhotometer #JournalClub. They used a lesion mimic mutant and map-based cloning suggested that GmLMM2 gene played an important role in the biosynthesis of tetrapyrrole and light-dependent defense in soybeans. The NanoPhotometer® was used to measure the absorbance of yellow compound at 415 nm, Coprogen III at 402 nm and Urogen III at 405 nm.

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The next publication is resuming our latest discussions about cell death. UVA radiation is known to induce oxidative stress which leads to cell damage requiring all organisms to protect themselves with free radical scavengers like ascorbic acid (vitamin C). A team of scientists (Ganna Petruk, Assunta Raiola, Rita Del Giudice, Amalia Barone, Luigi Frusciante, Maria Manuela Rigano, and Daria Maria Monti) from the University of Naples and Istituto Nazionale di Biostrutture e Biosistemi have published their work regarding a tomato genotype rich in ascorbic acid and were able to show its protective effects on human keratinocytes exposed to UVA stress. This might help to breed tomatoes with higher antioxidant levels contributing to human health when applied in a diet. The NanoPhotometer® was used to quantify ascorbic acid according to Stevens et al. and Rigano et al. at 525 nm using 6% TCA as reference.

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