Validation of growth regulators biological effect

Department of growth regulators, Department of molecular biology

Service description

Service could be customized after mutual discussion

In our laboratories we are able to test biological effects of substances with growth-regulative potential in a set of routine biotests enabling description of basic biological activity *in vitro*. We also offer verification of the effect mechanism through studies of a substance interaction with key enzymes of metabolism, transport and perception of plant hormones. The substance can be applied to model plants in laboratory and glasshouse conditions and its effect on plant growth and development can be described, e.g. effect on germination, seedling development, root development (main root development and number of side roots), effect on photomorfogenesis, stem development and growth, generative organs development, yield and senescence. We also offer field testing on basic panel of economically important crops. We can also test effect of the substance application on expression of key genes of photosynthesis, degradation, plant hormones transport and perception and of other genes affecting important parameters of plant development thus providing additional data complementing the general view to the mode of action of the tested substance.

Basic equipment related to the service

We have two fully equipped biochemical and molecular biological laboratories for testing of the biological effects. For gene expression analysis pipetting robots (Beckmann Coulter, Agilent) and high-capacity real-time array system (Applied Biosystems) are used. For plant cultivation cultivating chambers and boxes (Percival, Conviron), glasshouses with temperature and illumination control, hydroponic cultivation, automatic phenotyping machine with continuous data collection and 4,5 ha field are available.

Note: Other equipment of CRH could be used if needed.

Contact for expert and technical issues

Head of department:
Miroslav Strnad
Telephone: +420585634940
miroslav.strnad@upol.cz

Responsible person:
Lukáš Spíchal
+420585634855
lukas.spichal@upol.cz

Responsible person:
Petr Galuszka
+420585634923
petr.galuszka@upol.cz

Price and other terms

Individual – according to scale and specification of the service.
Feel free to ask for preliminary consultation.