



### Technology

Internal cytokinin levels influence growth and morphology in higher plants. The amount of cytokinin present in a plant or plant tissue is strongly controlled by a signalling pathway involving cytokinin oxidase (CKX) as one major component. Antisense inhibition of CKX activity leads to a stimulation of root growth, retardation of senescence and the production of a higher number of inflorescences. The novel class of substituted 6-anilinopurine derivatives inhibiting CKX activity leads to a similar effect on higher plants as the antisense technique. Treatment of human cell cultures with the novel purin derivatives reveals also a beneficial effect in respect to ageing.

### Competitiveness

- Application in agriculture and cosmetics
- Plant growth stimulator: Increases bio mass and size of flower organs in Arabidopsis. In rape: Increases branching, more fruits per plant
- Delaying senescence in plants and mammalian skin cells (fibroblasts and keratinocytes)
- Higher yield in crops
- Chemical synthesis is proven
- Improved selectivity and efficiency in CKX-inhibition than common cytokinin derivatives
- Less toxic than known purine derivatives

### IP Rights

Czech patent application PV 2007-453 filed on 04.07.2007  
PCT patent application filed on July 2, 2008.  
Regionalization in 2010.

### Origin

The invention was made at the Freie Universität Berlin (Germany) in cooperation with the Palack University Olomouc.

### About ipal

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- Suitable Industry  
Agriculture, Cosmetics

- Market Potential  
Worldwide

- Development  
Model plant Arabidopsis, tobacco and first results in rape

- Type of collaboration  
License

- Project Manager

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