

VORF-7

1

Xing Wang Deng (1960 ?)

2024

Peking University, Wang Kezhen Building,
No.5 Yiheyuan Road, Haidian District, Peking,
China 100871

<https://www.sustech.edu.cn/en/faculties/dengxingwang.html>

dengxingwang@nibs.ac.cn



- 1982 – Peking University, Peking, China (B.S., Plant Biochemistry and Physiology)

- 1985 – Peking University, Peking, China (M.S., Biophysics and Biochemistry of Photosynthesis)

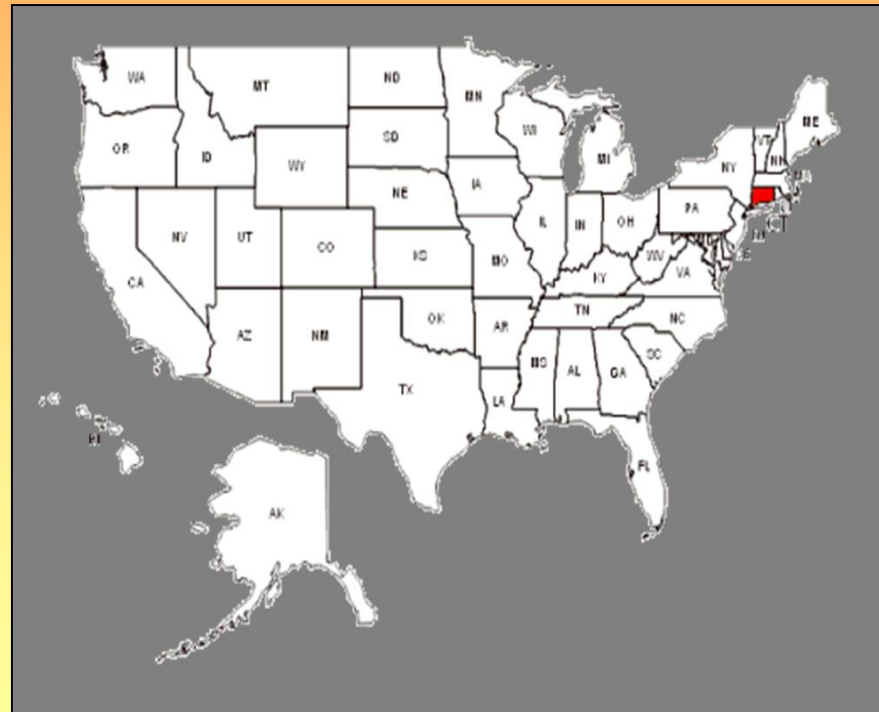
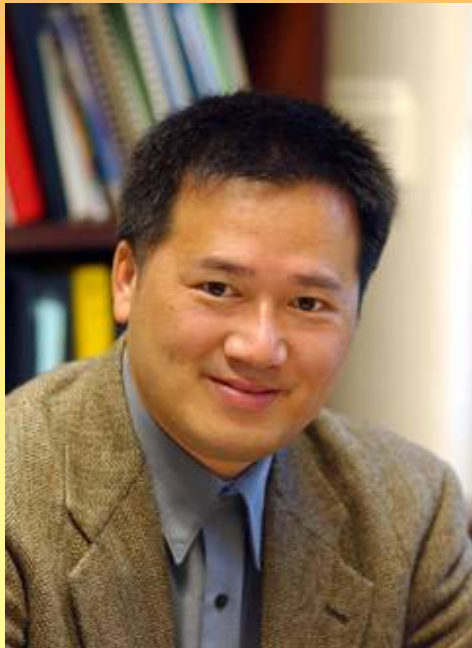


- 1989 – University of California, Berkeley, CA (Ph.D., Biology)

- 1989 – 1991 – Post-doc, Dept. of Biology, University of California, Berkeley, CA (v laboratoři Peter Quail)



- **1992 – 1995 – Assistant professor, Department of Molecular, Cellular, and Developmental Biology, Yale University, New Haven, CT**
- **1995 – 2001 – Associate professor, Department of Molecular, Cellular, and Developmental Biology, Yale University, New Haven, CT**



- **2000 – Director, Peking-Yale Joint Research Center for Plant Genetics & Agrobiotechnology**



Cíl: Zvýšit produkci plodin porozuměním rostlinné biologie
Finančně podporováno Monsanto Company

V srpnu 2000 bylo podepsáno na Peking University memorandum o založení **Peking-Yale Joint Center for Plant Molecular Genetics and Agrobiotechnology**. 7. května 2001 se uskutečnila formální inaugurace za účasti prezidenta (rektora) Yale University **Richarda Levina**.

- **2001 – 2014 – Professor, Department of Molecular, Cellular, and Developmental Biology, Yale University, New Haven, CT**
- **2003 – 2008 – Co-Director, National Institute of Biological Sciences, Peking, China**

- 2003 – 2014 The Daniel C. Eaton Professor of Plant Biology, Yale University, New Haven, CT
- 2014 – dosud – University Endowed Professor, School of Life Sciences, Peking University

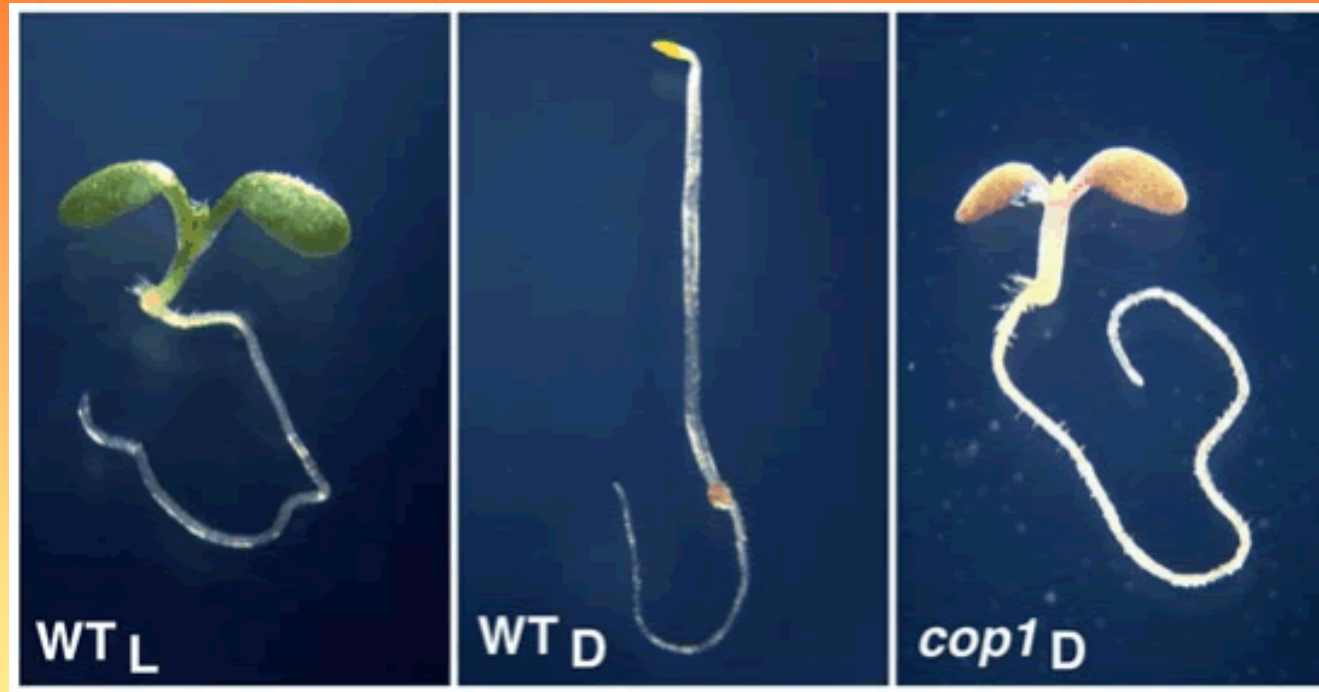


- 2014 – dosud – Dean of School of Advanced Agricultural Sciences, Peking University,
- 2016 – dosud – Chair Professor, Department of Biology, Southern University of Science and Technology (SUSTech), Šen-čen

**Studium procesů buněčné signalizace zapojených
ve fotomorfogenezi – proteiny COP1, COP9, COP10**



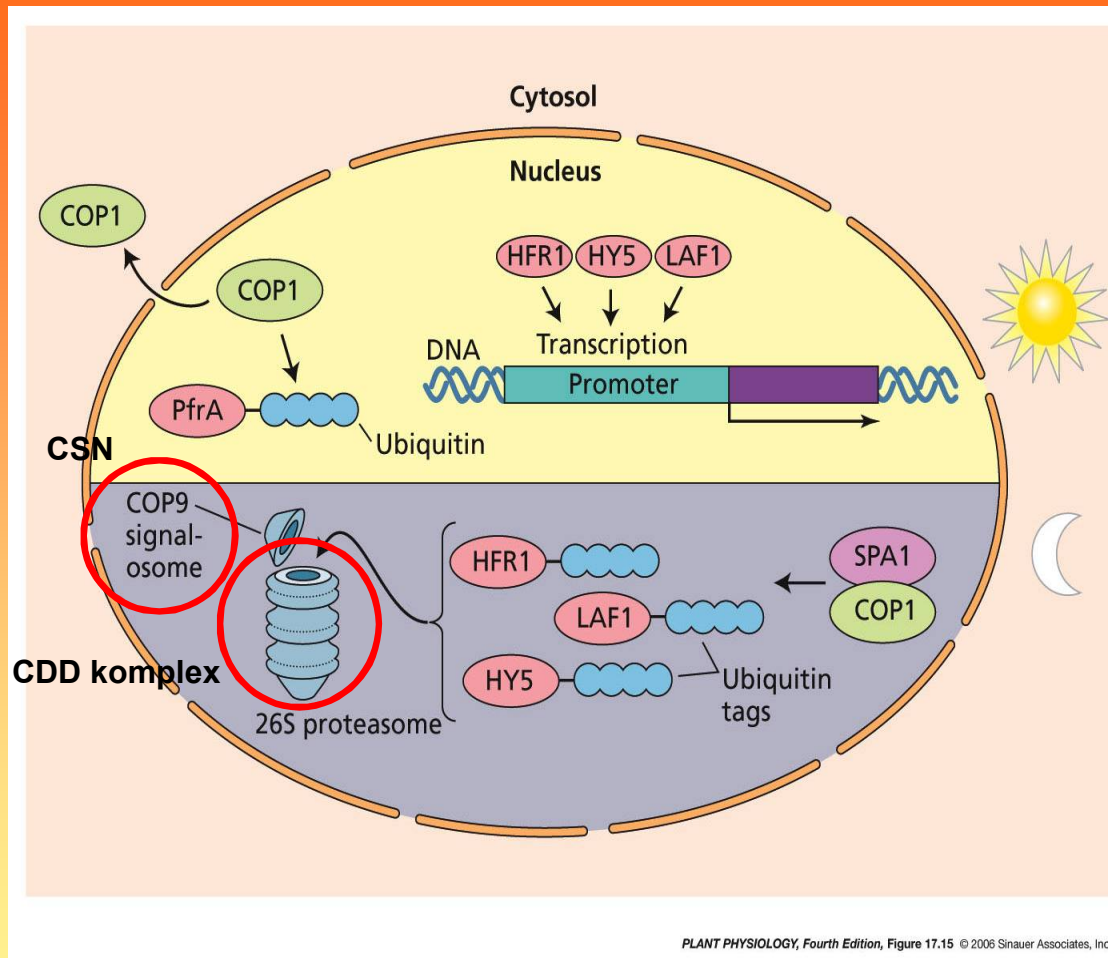
***cop1* (constitutive photomorphogenesis 1)** - etiolizované rostliny ukazují fenotyp rostlin rostoucích na světle



Nemutovaná rostlina

Mutant *cop1*

Zdravý (= funkční) gen *COP1* – negativní regulátor fotomorfogeneze



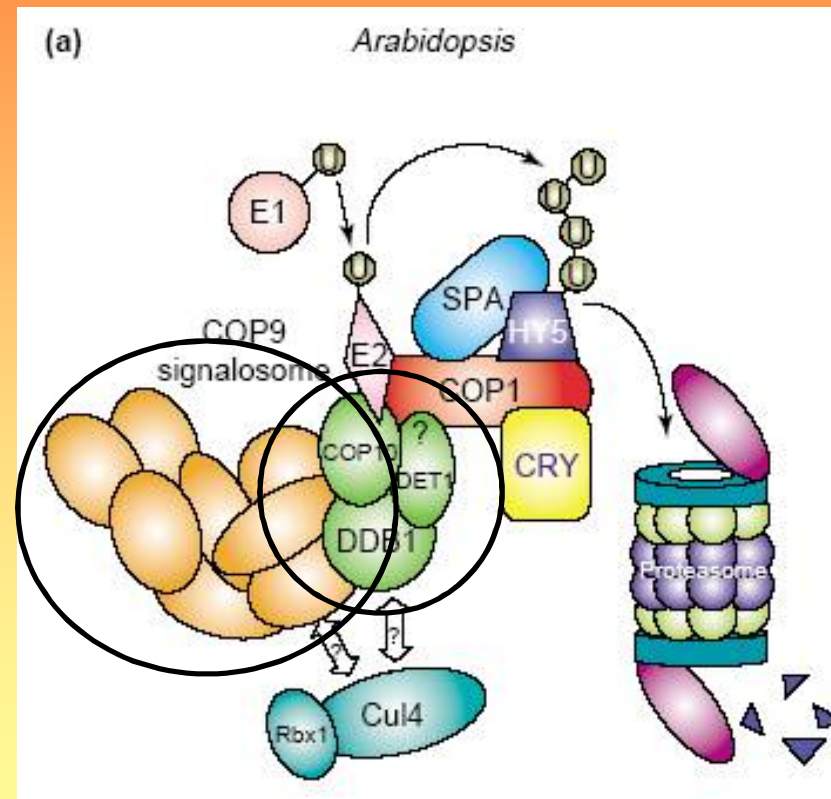
COP1 funguje jako hlavní vypínač: ve tmě vypíná fotomorfogenezi degradací transkripčních faktorů.

↓
Akumulace **COP1** v jádře
↓
Likvidace transkripčních faktorů HY5, LAF1, HFR1

↓
Transport **COP1** z jádra
↓
„Osvobození“ transkripčních faktorů HY5, LAF1, HFR1

COP9 signalozom (CSN) - konzervovaný u rostlin a živočichů; spojen s multi-komplexy E3 ubiquitin ligázy; reguluje aktivitu E3 (tj. **COP1)**

CDD komplex (COP10, DET1, DDB1) – nalezen pouze u rostlin



Wang et al. (2009) *Plant J* 58: 655-667

Ocenění za biologii

1995

Bývalý president Bill Clinton udělil Xing Wang Dengovi cenu NSF Presidential Faculty Fellow Award. Tuto cenu získalo 30 mladých amerických vědců a inženýrů (\$500 000).



2003

Xing Wang Deng přebírá Kumho Science International Award (Korea) za rostlinou molekulární biologii a biotechnologii (\$ 30 000)



2010

11

Xing Wang Deng byl vybrán do programu “1000 Talents Plan” of China

Plán tisíc talentů (neboli Program tisíc talentů, nebo také Zámořské programy pro nábor talentů na vysoké úrovni) byly založeny v roce 2008 čínskou ústřední vládou za účelem náboru předních mezinárodních odborníků na vědecký výzkum, inovace a podnikání.



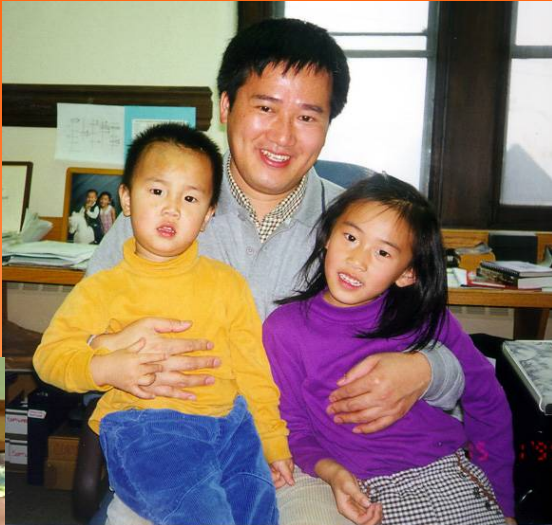
Čínský vlajkový program náboru vědeckých talentů, **Plán tisíců talentů**, se dostal v USA do ilegality. Vládní agentury Spojených států podezřívají Čínu, že cílem tohoto plánu je krádež amerických technologií a duševního vlastnictví.

2013 – Elected fellow of American Association for Advancement of Science

2013 – Beijing Outstanding Experts in Science, Technology and Management

2013

Xing Wang Deng byl zvolen členem
National Academy of Sciences



Aug 20, 2014: Yale MCDB Reception for Celebration of New NAS Members



2015

Nature Award for Mentoring in Science (from www.nature.com)







2005/08/18





Global Institute for Food Security (GIFS) conference 2018

Development of Hybrid Seed Production Technology for Rice & Wheat
by Xing Wang Deng

<https://www.youtube.com/watch?v=W62WAQ3P2rg>

(od 2:18)

Sean R. Cutler (1966)

University of California Riverside
Botany and Plant Sciences Chemistry
Genomics Building /3119A
Riverside, CA 92521
USA

<https://profiles.ucr.edu/app/home/profile/cutler>

sean.cutler@ucr.edu



Campus s dominantou Bell tower

- 1991 – University of Toronto, Toronto, Ontario, Canada (B.A.)
- 1995 – University of Toronto, Toronto, Ontario, Canada (M.S.)
- 2001 – Stanford University, Stanford, CA, USA (Ph.D.)



- 2001 – 2002 – Post-doc, The Scripps Research Institute, La Jolla, CA
- 2003 – 2006 – Assistant professor, University of Toronto
- 2010 – ? – Associate professor, University of California, Riverside, CA
- 2016 – dosud – Distinguished Professor, University of California, Riverside, CA

Ocenění za biologii

2006 – Canadian Research Chair in Plant Functional Genomics

2009 – Top 10 Breakthrough List, *Science*

2010 – Fast Breaking Papers 2010 ([ScienceWatch Interview](#))

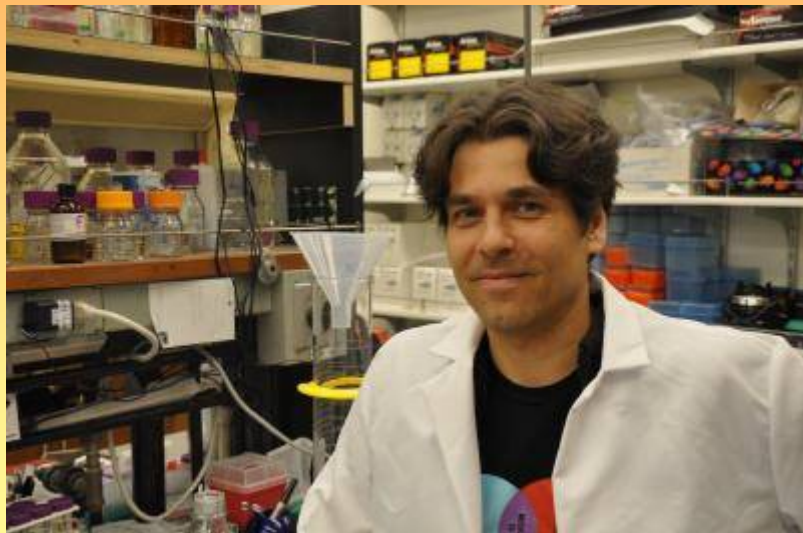
2010 – PGRSA Young Scientist Award (Plant Growth Regulation Society of America)

2011 – Charles Albert Shull Award, ASPB

2016 – Distinguished Researcher Award

2018 – Elected to the National Academy of Sciences

2019 – Editorial Board Member, PNAS



2010 PGRSA Young Scientist Award

Identifikace receptorů pro rostlinný hormon ABA



Abscisic Acid Inhibits Type 2C Protein Phosphatases via the PYR/PYL Family of START Proteins

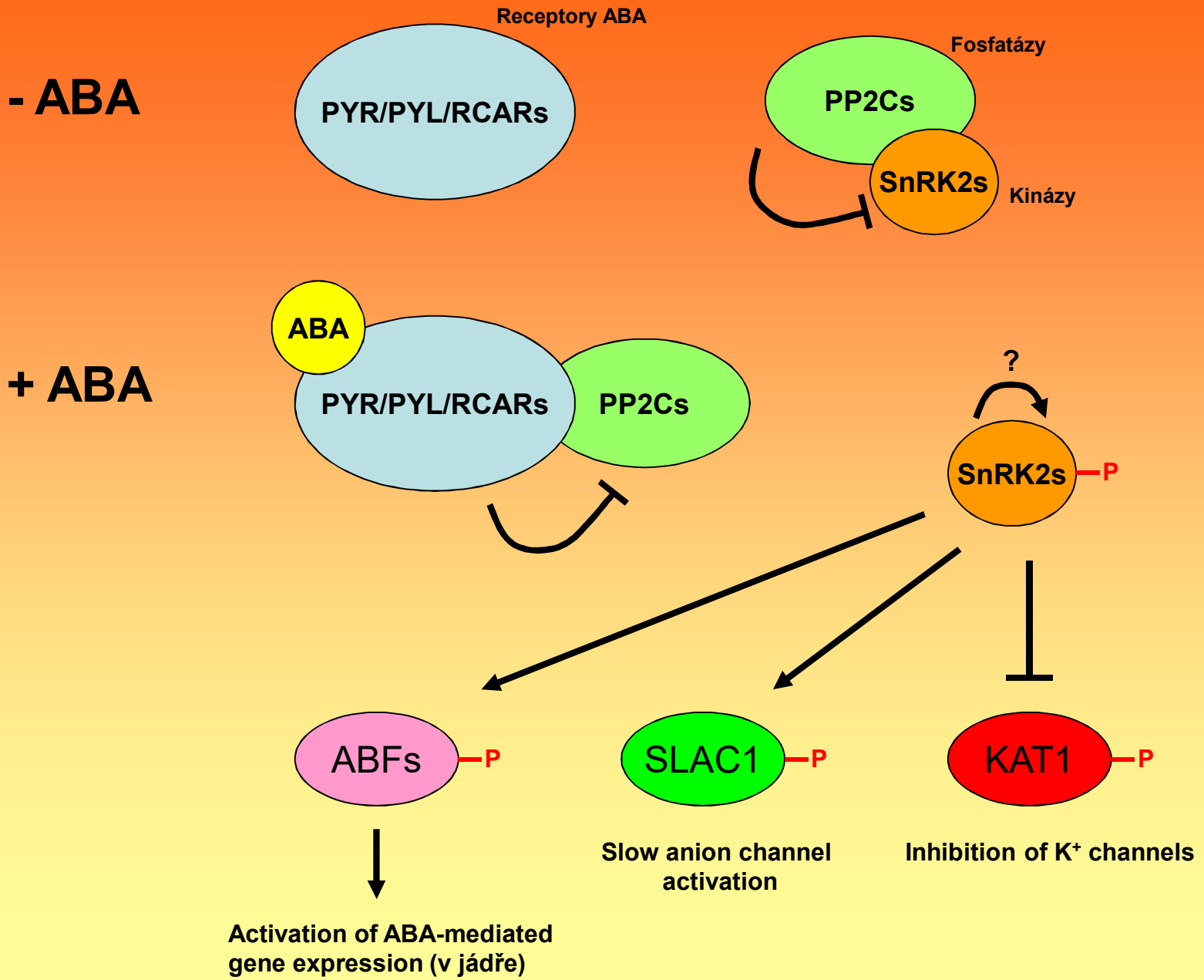
Sang-Youl Park, *et al.*

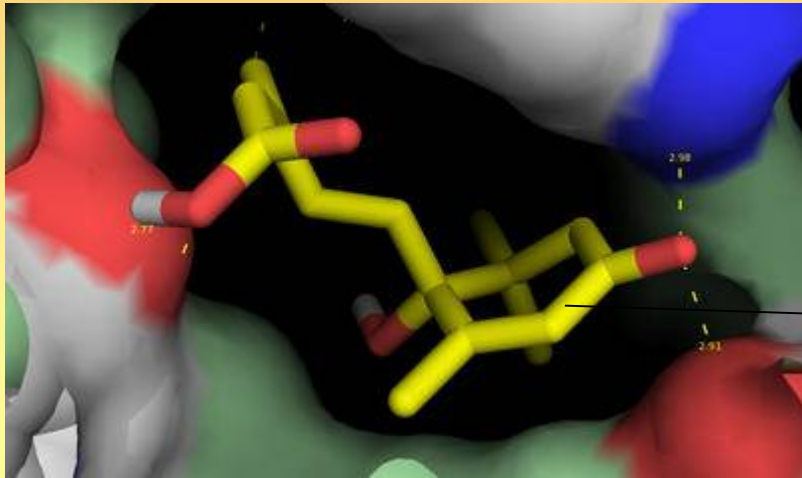
Science 324, 1068 (2009);

DOI: 10.1126/science.1173041

Type 2C protein phosphatases (PP2Cs) are vitally involved in abscisic acid (ABA) signaling. Here, we show that a synthetic growth inhibitor called pyrabactin functions as a selective ABA agonist. Pyrabactin acts through *PYRABACTIN RESISTANCE 1* (*PYR1*), the founding member of a family of START proteins called PYR/PYLs, which are necessary for both pyrabactin and ABA signaling in vivo. We show that ABA binds to *PYR1*, which in turn binds to and inhibits PP2Cs. We conclude that PYR/PYLs are ABA receptors functioning at the apex of a negative regulatory pathway that controls ABA signaling by inhibiting PP2Cs. Our results illustrate the power of the chemical genetic approach for sidestepping genetic redundancy.







Hypotetický model vazby ABA na receptor PYR1.

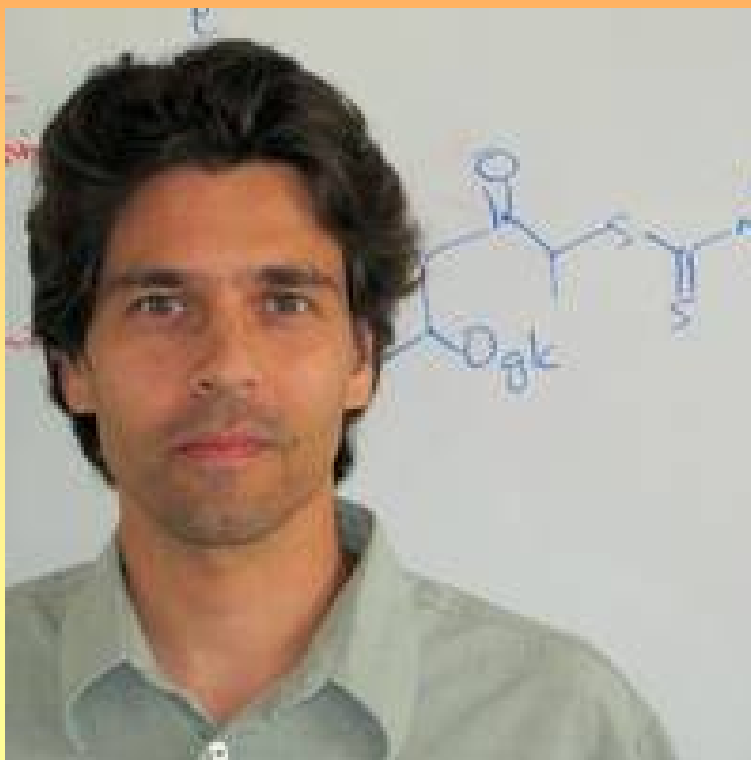
ABA

Cutler lab, UC Riverside.

Patents by Inventor Sean R. Cutler

<https://patents.justia.com/inventor/sean-r-cutler>

**Sean R. Cutler vlastní přes 30 patentů spojených s receptory ABA
či signálními drahami ABA.**





**19th International Conference on Arabidopsis Research (July 23 - 27, 2008).
At the bar. From left, Nick Provar, Marika Cooper, Sean Cutler, Dario Bonetta.**

Interview with Sean Cutler

<https://www.youtube.com/watch?v=WWrQYM6I-0>



UC Riverside Center for Plant Cell Biology

<https://www.youtube.com/watch?v=QK3WXP0YKuQ>

(od 3:00)