

## Prof. Tadeusz Rorat

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### Born:

13 May 1947, Poland

### Specialisation:

plant molecular biology and genetics

### Research interests:

molecular mechanisms of plant adaptation to low temperature and water deficit

### Training abroad:

- Institute of Arable Crops Research, Rothamsted, Harpenden, Herts, UK - 3 months (1983), granted by the British Council;
- Laboratoire de Physiologie Moléculaire des Plantes, CNRS, Perpignan Université, Perpignan, France - 3 months (1996), granted by CNRS;
- Laboratoire de Physiologie Moléculaire des Plantes, CNRS, Perpignan Université, Perpignan, France - 2 months (1998), granted by CNRS;
- Laboratoire de Physiologie Moléculaire des Plantes, CNRS, Perpignan Université, Perpignan, France - 3 months (1990), granted by CNRS;
- Laboratoire d'Ecophysiologie de la Photosynthese, DSV, DEVM, CEA/Cadarache, Saint-Paul-lez-Durance, France - 3 months (1998), granted by CEA;
- Laboratoire d'Ecophysiologie de la Photosynthese, DSV, DEVM, CEA/Cadarache, Saint-Paul-lez-Durance, France - 2 weeks (1999), granted by CEA;
- Laboratoire d'Ecophysiologie de la Photosynthese, DSV, DEVM, CEA/Cadarache, Saint-Paul-lez-Durance, France - 1 months (2000), granted by CEA

### International cooperation:

- with France: Dr hab. Pascal Rey: CEA/Cadarache, Direction des Sciences du Vivant, Département d'Ecophysiologie Végétale et Microbiologie, Laboratoire d'Ecophysiologie de la Photosynthèse, Saint-Paul-lez-Durance.

### Main recent publications:

KIEŁBOWICZ-MATUK A., REY P., RORAT T. 2008. The organ-dependent abundance of a *Solanum* lipid transfer protein is up-regulated upon osmotic constraints and associated with cold acclimation ability. *J. Ex. Bot.* 59: 2191-2203.

KIEŁBOWICZ-MATUK A., REY P., RORAT P. 2007. The abundance of a single domain cyclophilin in *Solanaceae* is regulated as a function of organ type and high temperature and not by other environmental constraints. *Physiol. Plant.* 131: 387-398.

RORAT T, SZABAŁA B.M, GRYGOROWICZ W.J, WÓJTOWICZ B, YIN Z, REY P. 2006. Expression of SK<sub>3</sub>-type dehydrin in transporting organs is associated with cold acclimation in *Solanum* species. *Planta*. 224: 205-221.

RORAT T. 2006. Plant dehydrins - tissue localization, structure and function. *Cell. Mol. Biol. Lett.* 11: 536-556.

YIN Z, RORAT T, SZABAŁA B.M, ZIÓŁKOWSKA A, MALEPSZY S. 2006. Expression of a *Solanum sogardium* SK<sub>3</sub>-type dehydrin enhances cold tolerance in transgenic cucumber seedlings. *Plant Sci.* 170: 1164-1172.

KOROBCZAK A., AKSAMIT A., ŁUKASZEWICZ M., LORENC K., RORAT T., SZOPA J. 2005. The potato

glucosyltransferase gene promoter is environmentally regulated. *Plant Sci.* 168: 339-348.

PAWŁOWICZ I, GRYGOROWICZ WJ, RORAT T. 2004. DHN10 dehydrin is not expressed in transgenic *Solanum* species plants when the *Dhn10* gene is fused to a glucosyl transferase promotor. *Cell. Mol. Biol. Lett.* 91: 947 -961.

RORAT T., GRYGOROWICZ WJ., IRZYKOWSKI W., AND REY P. 2004. Expression of KS-type dehydrins is primarily regulated by factors related to organ type and leaf developmental stage under vegetative growth. *Planta.* 218:878-885.

YIN Z, PAWŁOWICZ I, BARTOSZEWSKI G, MALINOWSKI R, MALEPSZY S, RORAT T. 2004. Transcriptional expression of a *Solanum sogarandinum* pGT::DHN10 gene fusion in cucumber, and its correlation with chilling tolerance in transgenic seedlings. *Cell. Mol. Biol. Lett.* 91: 891-902.

T. Rorat. Zastosowanie genetyki klasycznej i molekularnej do identyfikacji genów warunkujących tolerancję oraz aklimatyzację roślin do niskiej temperatury. Red. Paweł M. Pukacki. Reakcje roślin na stres niskich temperatur. Bogucki Wydawnictwo Naukowe. Poznań 2010. str. 38-45. ISBN 978-61320-76-0.

T. Rorat. Stres termiczny. Red. A. Goździcka-Józefiak i A. Woźny. Reakcje komórek roślin na czynniki stresowe, Tom II. 2010. str. 175-199. WN-UAM w Poznaniu. 2010. ISBN 978-83-232-2198-2.

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