

Lucille POURCEL

Address: Dept. of Plant Cellular and Molecular Biology, The Ohio State University
206 Rightmire Hall, 1060 Carmack Road, Columbus, OH 43210, USA.
Phone : 614-688-4954 (work); 614-620-1007 (cell phone)
Nationality : French
Date of birth: 01/02/1979
E-mail : pourcel.1@osu.edu



RESEARCH EXPERIENCE

- 03/2007-Present* *Institution* : Dept. of Plant Cellular and Molecular Biology; Ohio State University; OH, USA.
Position: Post-doc
Subject: Study of the flavonoid pathway in maize and *Arabidopsis thaliana*.
Supervisor: Pr Erich Grotewold.
- 01/2002-02/2007* *Institution*: Seed Biology Laboratory ; National Institute of Agronomic Research (INRA) ; Versailles, France.
Position : Master degree, Ph.D degree, Postdoctoral work.
Subject : Genetic and molecular analysis of *Arabidopsis thaliana* mutants affected in flavonoid metabolism in the seed coat.
Supervisors : Dr Loïc Lepiniec and Dr Isabelle Debeaujon.
- 07/2001-08/2001* *Institution* : Pathology Laboratory, INRA ; St Christol-lez-Ales, France.
Position : Training period.
Subject : Purification of toxins secreted by *Beauveria Bassiana* fungus by ion exchange and affinity chromatographies.
Supervisor : Dr Alain Vey.
- 07/2000-08/2000* *Institution* : Grapevine genetics, INRA ; Montpellier, France.
Position : Training period.
Subject : Analysis of the genetic variability in the *Vitaceae* family with microsatellite molecular markers.
Supervisor : Dr Patrice This.
- 06/1999-08/1999* *Institution* : Institute of Molecular Genetics ; ParisXI University, Orsay, France.
Position : Training period.
Subject : Identification of transgenic mice phenotype and genotype for QTL analysis with microsatellite markers.
Supervisor : Dr Gilles Vergnaud.

EDUCATION BACKGROUND

- 01/2002-07/2006* Ph.D, University of Paris XI – Orsay, France.
Subject : Characterization of the *TRANSPARENT TESTA 10* gene encoding a laccase-like protein involved in flavonoid oxidation in *Arabidopsis* seed coat.
Supervisor : Dr. Loïc Lepiniec.
- 09/2001-01/2002* Master of Science in Plant Molecular and Cellular Biology ; University Paris XI – Orsay, France.
- 09/1999-07/2001* Bachelor of Science in Cellular and Molecular Biology, Genetics, Biochemistry; University Paris XI – Orsay, France.
- 09/1997-07/1999* Associate of Science : Cellular Biology, Microbiology, Maths, Physics; University Paris XI – Orsay, France.
- 1997* High School Diploma : Biology, Maths, Physics, French, English ; Lycée Jules Verne, Nantes, France.

TECHNICAL EXPERTISE

- Characterization of nucleic acids (genomic and plasmidic DNA, total RNAs) : extraction techniques, PCR, quantitative and semi-quantitative RT-PCR, molecular cloning, Southern Blot, RACE, *in situ* hybridization ;
- Biochemistry : Western Blot, protein heterologous expression from *E. coli*, *in vivo* and *in vitro* laccase activity tests (on Arabidopsis seeds and native protein gels, respectively). Ion exchange, affinity and exclusion chromatographies. TLC, HPLC ;
- Imaging technology using photonic and confocal microscopy ;
- Arabidopsis plant transformation via *Agrobacterium tumefaciens* ;
- Genetic characterization of Arabidopsis T-DNA insertion mutants ;
- Histochemical characterization of flavonoids in Arabidopsis ;
- *In vitro* culture of plants.

PUBLICATIONS

Refereed publications :

F. Poustka, N.G. Irani, A. Feller, Y. Lu, L. Pourcel, K. Frame, E. Grotewold (2007).

A Trafficking Pathway for Anthocyanins Overlaps with the Endoplasmic Reticulum-to-Vacuole Protein Sorting Route in Arabidopsis and Contributes to the Formation of Vacuolar Inclusions. *Plant Physiology*, 145 (6) : 1323-1335.

Marinova K., Pourcel L., Weder B., Schwarz M., Barron D., Routaboul J.M., Debeaujon I., Klein M. (2007). The Arabidopsis MATE Transporter TT12 Acts as a Vacuolar Flavonoid/H⁺-Antiporter Active in Proanthocyanidin-Accumulating Cells of the Seed Coat. *Plant Cell*, 19 (6) : 2023-38.

Routaboul J.M., Kerhoas L., Debeaujon I., Pourcel L., Caboche M., Einhorn J. and Lepiniec L. (2006). Flavonoid diversity and biosynthesis in seed of *Arabidopsis thaliana*. *Planta*, 224 (1) : 96-107.

Pourcel L., Routaboul J.M., Kerhoas L., Caboche M., Lepiniec L. and Debeaujon I. (2005) *TRANSPARENT TESTA10* encodes a laccase-like enzyme involved in oxidative polymerization of flavonoids in Arabidopsis seed coat. *Plant Cell*, 17 (11) : 2966-2980.

Review articles and Book chapters :

Pourcel L. and Grotewold E. (2008). Phytochemicals, plant development and growth – Who is in control?. *In press*.

Pourcel L., Routaboul J.M., Cheynier V., Lepiniec L. and Debeaujon I. (2006). Flavonoid oxidation in plants : from biochemical properties to physiological functions. *Trends in Plant Science Vol.12 No.1*.

Debeaujon I., Lepiniec L., Pourcel L. and Routaboul J.M. (2006). Seed coat development and dormancy. *Seed Development, Dormancy and Germination*, 16 :5.

Lepiniec, L., Debeaujon, I., Routaboul, J.-M., Baudry, A., Pourcel, L., Nesi, N. and Caboche, M. (2006). Genetics and biochemistry of seed flavonoids. *Annual Review of Plant Biology*, 57:405-30.

COMMUNICATIONS TO MEETINGS

Oral communications :

Pourcel L., Lepiniec L., Debeaujon I. and Grotewold E. (2007). Flavonoid metabolism and oxidation. In: Graduate Research Seminar/Gordon Research Conference: Plant Metabolic Engineering, Tilton School, NH, USA, July 13-20, 2007.

Pourcel L., Routaboul J.M., Kerhoas L., Caboche M., Lepiniec L. and Debeaujon I. (2006). The *TT10* gene encodes a laccase-like protein involved in flavonoid oxidation in *Arabidopsis* seed coat. In : Federation of European Societies of Plant Biology, Lyon, France, July 17-21.

Posters :

Pourcel L., Lepiniec L., Debeaujon I. and Grotewold E. (2007). Flavonoid metabolism and oxidation. In: Graduate Research Seminar/Gordon Research Conference: Plant Metabolic Engineering, Tilton School, NH, USA, July 13-20, 2007.

Pourcel L., Routaboul J.M., Caboche M., Lepiniec L. and Debeaujon I. (2005). The *TT10* gene encodes a laccase-like enzyme involved in oxidative polymerization *Arabidopsis* flavonoids. In: Proceedings of the 16th International Conference on Arabidopsis Research, Madison, USA, June 15-19, 2005, poster 607.

Pourcel L., Routaboul J.M., Caboche M., Lepiniec L. and Debeaujon I. (2004). Characterization of the *tt10* mutant affected in *Arabidopsis* seed coat flavonoid metabolism. In: Proceedings of the 15th International Conference on Arabidopsis Research, Berlin, Germany, July 11-14, 2004, poster T07-002.

OTHER SKILLS

- English : written, spoken and read; TOEIC: 710/1000.
- Informatics : Current use of Microsoft Office, Internet (bibliographic searches, nucleic acid and protein sequence analyses).

Awards :

Best student/postdoc poster award from the Gordon Research Conference/Graduate Research Seminar : Plant Metabolic Engineering, Tilton School, NH, USA, July 13-20, 2007.

Best student poster award from 23rd International Conference on Polyphenols, Winnipeg, Canada, August 22-25, 2006.

Best student poster award from NAASC (North American Arabidopsis Steering Committee), 16th International Conference on Arabidopsis Research, Madison, USA, June 15-19, 2005.

Professional activities :

Organizational Committee for the Graduate Research Seminar : Plant Metabolic Engineering, Tilton School, NH, USA, July 13-20, 2007.

Reviewer for scientific journals :

Journal of Plant Physiology, Planta.

INTERESTS

- Running, hiking.

REFEREES

- Dr Loïc Lepiniec : INRA, Seed Biology Laboratory, Route de Saint Cyr, 78026 Versailles, France. Tel : (33) 01.30.83.30.49 ; E-mail : lepiniec@versailles.inra.fr.
- Dr Isabelle Debeaujon : INRA, Seed Biology Laboratory, Route de Saint Cyr, 78026 Versailles, France. Tel : (33) 01.30.83.34.41; E-mail : debeaujo@versailles.inra.fr
- Dr Véronique Cheynier: Unité Mixte de Recherche Sciences pour l'Oenologie ; Equipe Polyphénols ; INRA UMR SPO - Bât 28 ; 2 Place Viala ; 34060 Montpellier Cedex 1, France. Tel : 33 (0)4 99 61 22 98 ; E-mail : cheynier@ensam.inra.fr