

Maor Bar-Peled
Associate Professor of Plant Biology

Complex Carbohydrate Research Center
The University of Georgia
315 Riverbend Road
Athens, GA 30602-4712
peled@ccrc.uga.edu

Education

Hebrew University of Jerusalem, Israel	Plant Biology	B.S., 1985
Hebrew University of Jerusalem, Israel	Plant Biology	M.S., 1988
Weizmann Institute of Science, Rehovot, Israel	Biochemistry	Ph.D., 1994
MSU-DOE Plant Research Laboratory, Michigan State University, East Lansing	Plant Cellular Molecular Biology	Postdoc, 1993-1996

Professional Experience

2008-Present Faculty Investigator, DOE-funded BioEnergy Science Center (BESC)
2007-Present Associate Professor, Complex Carbohydrate Research Center and Department of Plant Biology, University of Georgia, Athens
2001-Present Assistant Professor, Complex Carbohydrate Research Center and Department of Plant Biology, University of Georgia, Athens
2001-Present Adjunct Assistant Professor, Department of Biochemistry and Molecular Biology, University of Georgia, Athens
1999-2000 Visiting Scientist, Department of Molecular Microbiology, Washington University School of Medicine, St. Louis, Missouri
1998-1999 Project Leader, Monsanto, St. Louis Missouri
1997-1998 Research Fellow, MSU-DOE Plant Research Laboratory, Michigan State University, East Lansing

Relevant Publications

Bar-Peled, M., E. Lewinsohn, R. Fluhr, and J. Gressel. 1991. UDP-rhamnose:flavanone-7-O-glucoside-2''-O-rhamnosyltransferase, purification and characterization of an enzyme catalyzing the production of bitter compounds in citrus. *J. Biol. Chem.* **266**: 20953-20959.

Perrin, R.M., M. Bar-Peled*, A.E. DeRocher*, W. Zeng, L. Norambuena, A. Orellana, N.V. Raikhel, and K. Keegstra. 1999. Xyloglucan fucosyltransferase, an enzyme involved in plant cell wall biosynthesis. *Science* **284**: 1976-1979.

Faik, A., M. Bar-Peled, A.E. DeRocher, W. Zeng, R.M. Perrin, N.V. Raikhel, and K. Keegstra. 2000. Biochemical characterization and molecular cloning of an α -1,2-fucosyltransferase that catalyzes the last step of cell wall xyloglucan biosynthesis in pea. *J. Biol. Chem.* **275**: 15082-15089.

Bar-Peled, M., C.L. Griffith, and T.L. Doering. 2001. Functional cloning and characterization of a UDP-glucuronic acid decarboxylase: The pathogenic fungus *Cryptococcus neoformans* elucidates UDP-xylose synthesis. *Proc. Natl. Acad. Sci. USA* **98**: 12003-12008.

Harper, A. and M. Bar-Peled. 2002. Biosynthesis of UDP-xylose: Cloning and characterization of a novel *Arabidopsis* gene family, *UXS*, encoding soluble and putative membrane-bound UDP-GlcA decarboxylase isoforms. *Plant Physiol.* **130**: 2188-2198.

Watt, G., C. Leoff, A.D. Harper, and M. Bar-Peled. 2004. A bifunctional 3,5-epimerase/4-keto reductase for nucleotide-diphospho-rhamnose synthesis in *Arabidopsis*. *Plant Physiol.* **134**: 1337-1346.

- Frydman, A., O. Weissshaus, M. Bar-Peled, D. Huhman, L.W. Sumner, F.R. Marin, E. Lewinsohn, R. Fluhr, J. Gressel, and Y. Eyal. 2004. Citrus fruit bitter flavors: isolation and functional characterization of the gene Cm1,2RhaT encoding a 1,2 rhamnosyltransferase, a key enzyme in the biosynthesis of the bitter flavonoids of citrus. *Plant J.* **40**: 88-100.
- Gu, X. and M. Bar-Peled. 2004. The biosynthesis of UDP-galacturonic acid in plants. Functional cloning and characterization of Arabidopsis UDP-D-glucuronic acid 4-epimerase. *Plant Physiol.* **136**: 4256-4264.
- Pattathil, S., A. Harper, and M. Bar-Peled. 2005. Biosynthesis of UDP-xylose: Characterization of a membrane bound UXS2. *Planta* **221**: 538-548.
- Frydman, A., O. Weissshaus, D.V. Huhman, L.W. Sumner, M. Bar-Peled, E. Lewinsohn, R. Fluhr, J. Gressel, and Y. Eyal. 2005. Metabolic engineering of plant cells for biotransformation of hesperidin into neohesperidin, a substrate for production of the low-calorie sweetener and flavor enhancer NHDC. *J. Ag. Food Chem.* **53**: 9708-9712.

*Contributed equally to publication.

Other Professional Activities

- Developed methods to identify novel nucleotide sugar biosynthetic enzymes
- Developed methods to identify glycosyltransferases involved in glycan synthesis
- Developing RealTime assays in nanoscale platform and in NMR as tool for Golgi-system biology
- Served on three NSF grant review panels: May 2005; May 2006, May 2007
- 2001-present: Provided research training for over 70 undergraduate students. Of these, 3 undergraduates were awarded a CURO Research Fellowship from the UGA Honors program (each student is trained for a full academic year). Seven students are currently enrolled in graduate school (i.e., MIT, Oregon, Alabama, Georgia and the University of Texas), 10 students in medical school, 2 in law school, 3 are high school teachers, and 4 are research associates. Provide research opportunities to minority via the PLSMP program, typically 4-6 minority students per year