

## Curriculum Vitae

### Glenn R. Hicks, PhD

Department of Botany and Plant Sciences  
University of California  
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#### EDUCATION

- 1981 B.S. in Bacteriology, University of California at Davis
- 1992 Ph.D. in Genetics (Plant Molecular Genetics), Oregon State University  
Laboratory of Dr. Terri Lomax  
Dissertation Title: Molecular Identification and Characterization of Two Plasma Membrane Associated Auxin Binding Proteins
- 1992-95 NSF Postdoctoral Fellow/Postdoctoral Research Associate,  
Michigan State University  
Laboratory of Dr. Natasha Raikhel  
Research: Mechanisms of nuclear import in higher plants

#### POSITIONS HELD

- 1979-81 Medical Technician, Clinical Bacteriology, VA Hospital, Palo Alto, CA  
Clinical bacterial culture and identification (twenty hours per week during school year)
- 1981 Research Technician, Laboratory of Dr. Clarence Kado, Dept. of Plant Pathology, University of California, Davis, CA  
Mechanisms of *Agrobacterium* virulence
- 1981-82 Research Assistant, Armos Corp., South San Francisco, CA  
Cloning of mammalian virus DNA for subunit vaccine
- 1982-87 Staff Scientist, Sungene Technologies Corp., Palo Alto, CA  
Plant transformation, growth regulator effects on protein expression
- 1987-92 NASA Predoctoral Fellow/Graduate Research Associate,  
Oregon State University  
Principle Investigator, Dr. Terri Lomax
- 1992-95 NSF Postdoctoral Fellow, MSU-DOE Plant Research Laboratory,  
Michigan State University  
Principle Investigator, Dr. Natasha Raikhel
- 1995-96 Postdoctoral Research Associate, MSU-DOE Plant Research Laboratory,  
Michigan State University  
Principle Investigator, Dr. Natasha Raikhel
- 1996-99 Group Leader, DeKalb Genetics, Mystic, CT  
-Transgenic Yield Enhancement and Insect Resistance

- 1997-99 Adjunct Faculty, University of New Haven, West Haven, CT  
- Advisor for MS student
- 1999-2002 Associate Director, Plant Genetics, Exelixis, South San Francisco, CA  
Developed and managed multiple research programs:  
- Genetic models for biotechnology including higher plants (*Arabidopsis*, *Brachypodium*), Algae (*Chlamydomonas*), Mosses (*Physcomitrella*, *Ceratedon*), bacteria (*Synechocystis*), and yeast.  
- Large scale *Arabidopsis* screens and positional cloning of herbicide gene targets  
- In vitro transposon tagging in *Synechocystis* to identify herbicide resistance genes  
- Provided funding for academic research and actively collaborated in areas such as starch biochemistry and development of higher plant models  
- Business development and technology assessment
- 2003-2017 Assistant/Associate Research Plant Cell Biologist  
Center for Plant Cell Biology & Dept of Botany and Plant Sciences,  
University of California, Riverside CA  
- Understanding endomembrane trafficking in plants through the use of novel small molecules (chemical genomics)  
- Mentoring for students and postdocs
- 2007-2018 Director of IIGB Reseach Facilities  
Institute for Integrative Genome Biology (IIGB),  
University of California, Riverside, CA  
- Operational oversight (management, budget) of IIGB advanced instrumentation facilities including Genomics, Proteomics, Microscopy and Bioinformatics Facilities, and bioactive compound screening resources  
- Technology assessment, acquisition and implementation  
- Direct oversight of Genomics Core including campus-wide DNA sequencing (capillary, NextGen, quantitative PCR, imaging, flow cytometry, and other instrumentation and campus-wide services
- 2017- Research Plant Cell Biologist  
Center for Plant Cell Biology & Dept of Botany and Plant Sciences  
University of California, Riverside, CA
- 2010- Consultant in genomics and other developing technologies
- 2018- August T Larsson Guest Researcher Program, Department of Molecular Sciences, Swedish University of Agricultural Science, Uppsala, Sweden

#### **AWARDS AND HONORS**

- 1979-81 Dean's Honor List, University of California at Davis
- 1987 NASA Graduate Student Research Program Fellowship
- 1989 Invited Student, FASEB Conference on Biochemical and Biophysical Mechanisms of Gravity Responses
- 1990 Award for Outstanding Student Oral Presentation, Annual Meeting of The American Society for Gravitational and Space Biology
- 1992 NSF Postdoctoral Fellowship in Plant Biology

- 2009 US Patent 7612194 (issued Nov 3, 2009) "Nucleic Acid Sequences of Diabrodica Virgifera Leconte and Uses Thereof" Anderson E, Hicks GR, Husesing JE, Ramano, CP, Vetsch CS
- 2010 US Patent 7820883 (issued Oct 26, 2010) 'Resistance to Auxinic Herbicides" Walsh TA, Hicks GR, Honma M, Davies JP
- 2011 US Patent 8071847 (issued dec 6, 2011) "Resistance to Auxinic Herbicides"
- 2012 US Patent 808979 (issued Jan 3, 2012) "Resistance to Auxinic Herbicides" Walsh TA, Hicks GR, Honma M, Davies JP
- 2013 US Patent 8535893 (issued Sept 17, 2013) 'Resistance to Auxinic Herbicides" Walsh TA, Hicks GR, Honma M, Davies JP
- 2018-2021 August T Larsson Guest Researcher Program, Department of Molecular Sciences, Swedish University of Agricultural Science, Uppsala, Sweden

## GRANTS

- 2004-07 **Agency:** NASA Office of Biological and Physical Research  
**Co-PIs:** Glenn Hicks, Natasha Raikhel  
**Title:** An Understanding of Gravitropism via Vacuole Biogenesis and the Identification and use of Gravi-active Drugs to Dissect the Pathway.  
**Award Amount: \$936,480**
- 2008-11 **Agency:** National Science Foundation  
**Co-PIs:** Natasha Raikhel, Glenn Hicks  
**Title:** Identifying target/Pathways of Chemical Probes for the Plant Endomembrane System  
**Award amount: \$239,993**
- 2010-12 **Agency:** National Institutes of Health  
**PI:** Glenn Hicks  
**Title:** Advanced DNA Sequencing and Computing Resources in Support of NIH-Funded Research  
**Award Amount: \$742,627 (plus \$96,000 university match)**
- 2014-17 **Agency:** Department of Energy  
**Co-PIs:** Natasha Raikhel, Glenn Hicks  
**Title:** Understanding the role of the exocyst in regulating the dynamics of vacuole trafficking and secretion  
**Award Amount: \$555,000**
- 2017-19 **Agency:** Department of Energy  
**Co-PIs:** Glenn Hicks, Natasha Raikhel  
**Title:** Understanding the dynamics of vacuole trafficking and secretion for enhanced plant storage reserves  
**Award Amount: \$120,000**

## PROFESSIONAL ACTIVITIES AND AFFILIATIONS

- 1991 Member, Independent Scientific Panel to Evaluate The Center for Gene Research and Biotechnology, Oregon State University;
- 1991 Equipment Committee, Oregon State University:

- 1993 Personal Affairs Committee, Michigan State University;
- 1994 Search Committee for Two Tenure-Track Positions, Michigan State University
- 1997 Invited member, Board of Practitioners to evaluate curriculum of the Molecular and Cellular Biology Program, Oregon State University
- 2002 Invited Lecturer, Expert Workshop (Pew) on University-Industry Relationships and the Public Good: Framing the Issues in Agricultural Biotechnology
- 2003 Invited Review Panel, Plant Biology Enterprise Strategy Roadmap Workshop, NASA Ames Research Center, CA
- 2004 Invited Review Panel, NASA Plant Biology: Future Directions, Kennedy Space Center, FL
- 2007 Search Committee, Specialist in Genomics, Institute for Integrative Genome Biology, University of California, Riverside, CA
- 2008 Search Committee, Specialist in Genomics, Institute for Integrative Genome Biology, University of California, Riverside, CA
- 2009 Organizer, Special workshop on NextGen sequencing applications, University of California, Riverside, CA
- 2010-18 Awards Committee, Center for Plant Cell Biology, University of California, Riverside, CA
- 2010 Organizer, Laboratory workshop on sample prep or NextGen DNA sequencing, University of California, Riverside, CA
- 2010-16 Technical Advisory Committee, Citrus Research Board diagnostic laboratory, Riverside, CA
- 2011 Organizer, Special Workshop on NextGen applications, University of California, Riverside, CA
- 2011 Organizer, Laboratory workshop on RNASeq sample prep and sequencing
- 2012-13 Search Committee, Director Bioinformatics, Institute for Integrative Genome Biology, University of California, Riverside, CA
- 2012 Organizer (with Sean Cutler) biweekly IIGB PI meetings focused on research problem solving, University of California, Riverside CA
- 2012 Presented "Workshop on Genomics and Proteomics" course, University of Dhaka, Bangladesh
- 2012 Organizer, Laboratory workshop on small RNA sample prep for NextGen sequencing, University of California, Riverside, CA
- 2013 Editor, Methods in Molecular Biology Series, "Plant Chemical Genomics: Methods and Protocols"
- 2015 Advisory Committee, UCR VC of Research and Economic Development on campus-wide facilities equipment needs
- 2016 Search Committee, Operations Manager, IIGB; Programmer, Bioinformatics
- 2016 Co-organizer. Unconventional Proteins and Membrane Trafficking Meeting, Lecce, Italy (Oct 4-7)
- 2017 Search Committee, Metabolomics Academic Coordinator
- 2018-21 August T Larsson Guest Researcher Program, Department of Molecular Sciences, Swedish University of Agricultural Science, Uppsala, Sweden

*Invited Speaker:* 1994 Dept of Biology, Univ of Freiburg, Freiburg, Germany; 1994 Biozentrum, Univ of Basel, Switzerland; 1995 Keystone Symp on Plant Cell Biology; 1995 Symp on Directed Transport of Proteins and Nucleic Acids, Ruhr-Univ Bochum, Germany; 1996 The Third International Workshop on Basic and Applied Research in Plasmodesmal Biology, Zichron Yakov, Israel; 1997 Information Processing in Plants:

Their Evolution and Function, UC Davis; 1999 Monsanto Tech TCM Meeting, St. Louis, MO; 2001 Thermobiology Institute, Montana State Univ; 2002 Expert Workshop (Pew) University-Industry Relationships and the Public Good: Framing the Issues in Agricultural Biotechnology; 2004 ASPB Annual Meeting, Orlando, FL, 2004 Frontiers in Sexual Plant Reproduction – II, Albany, NY; 2005 Plant Biology graduate Group, University of California, Davis, CA; 2005 Gordon Research Conference: Mechanotransduction and Gravity Sensing in Biological Systems, Biddeford, ME; 2005 UC Riverside IGERT Research Conference, Lake Arrowhead, CA; 2005 UC Riverside Graduate Seminar Series (BSP250); 2007 UC Riverside IGERT Research Conference, Lake Arrowhead, CA; 2007 18<sup>th</sup> International Conference on Arabidopsis Research, Beijing, China; 2008 RIKEN Plant Science Institute, Yokohama, Japan; 2008 Frontiers in Sexual Plant Reproduction III, Tuscon, AZ; 2008 UC Riverside IGERT Research Conference, Lake Arrowhead, CA; 2009 VIB Dept. of Plant Systems Biology, Ghent Belgium; 2010 Buenos Aires Plant Biology Lectures, Universidad de Buenos Aires, Buenos Aires Argentina; 2011 Umea University, Umea, Sweden; 2011 Departamento de Biología, Facultad de Ciencias, University of Chile; 2012 Dept of Botany, University of Dhaka, Bangladesh; 2012 Western Association of Core Directors, Oregon Health and Science University, Portland, OR; 2012 Affiliates of UCR Program, UC Riverside; 2013 Illumina Core Directors Meeting, Los Angeles, CA; 2013 Botaniker Tatung 2013, Tuebingen, Germany; 2013 Dept of Plant Biology, University of Chile, Santiago; 2013 Plant Biology Meeting, Pucan, Chile; 2015 Facing Novelty in Plant Cell Biology, Santiago, Chile; 2015 Pan American Plant Membrane Biology Meeting, San Pedro de Atacama, Chile; 2015 Chemical and Biological Tools for Crop Improvement (FTNLS) symposium, VIB, Ghent Belgium; 2016 Experimental Biology 2016, San Diego, CA; 2016 Unconventional Membrane and Protein Transport, Lecce, Italy; 2017 International Conference on Arabidopsis Research, St. Louis, MO; June 2018 Linnean Centre Science Frontiers Seminar, Uppsala Univ, Sweden; 2019 Small Molecules in Plant Research, Valencia, Spain.

*Journal Reviewer:* Proceedings of the National Academy of Sciences, The Plant Cell, Plant Physiology, Journal of Cell Biology, Plant Journal, Trends in Plant Sciences, Journal of Agriculture and Food Chemistry, Carbohydrate Research, Plasmid, Nature, Genes and Development, Current Biology, Molecular Plant, Chemistry and Biology, ACS Chemical Reviews, Cell, Nature Chemical Biology, Science, Nature Cell Biology, Developmental Cell, Physiologica Plantarum, Journal of Proteome Research; Nature Communications; Plant Cell and Physiology, Journal of Experimental Botany, Frontiers in Plant Sciences, Nature Communications

*Grant Reviewer:* National Science Foundation, US Department of Agriculture, US-Israel Binational Science Foundation, The Leverhulme Trust, Fonds Wetenschappelijk Onderzoek (FWO), Vienna Science and Technology Fund (WWTF), Agence Nationale de la Recherche (ANR), Pioneer Hybrid, Israel Science Foundation

### **CONTRIBUTED PAPERS (Selected only)**

Hicks, G.R., D.L. Rayle, and T.L. Lomax (1989) Characterization of two-plasma membrane auxin binding proteins in zucchini and the *diageotropica* mutant of tomato. *FASEB Conference on Biochemical and Biophysical Mechanisms of Gravity Responses*, Copper Mountain, Colorado.

\*Hicks, G.R., M.S. Rice, and T.L. Lomax (1991) Enrichment and characterization of the 40 and 42 kDa auxin-binding proteins from zucchini. *ISPMB Third International Congress*, Tuscon, Arizona.

\*seminar

\*Hicks, G.R., S. Lobreaux, and N.V. Raikhel (1994) Nuclear localization sequence recognition and protein import in higher plants. *American Society of Plant Physiologists Annual Meeting*, Portland, Oregon.

\*seminar

Hicks, G.R. and N.V. Raikhel (1995) Crosslinking of nuclear localization signal binding proteins in higher plants. *Keystone Symposium on Plant Cell Biology: Mechanisms, Molecular Machinery, Signals and Pathways*, Taos, New Mexico.

Hicks, G.R., Hironaka, C.M., Dauville D., Funke, R.P., D'Hulst C., Waffenschmidt S., and Ball S.G. (2001) When simpler is better. Unicellular green algae for discovering new genes and functions in carbohydrate metabolism. *American Society of Plant Biologists Annual Meeting*, Providence, RI

\*Hicks, G.R., Rojo, E., Hong, S., Carter, D., and Raikhel, N.V. (2004) Vacuolar biogenesis in germinating pollen differs from that of sporophytes but nevertheless requires *VACUOLESS1* for proper function. *American Society of Plant Biologists Annual Meeting*, Orlando, FL

\*seminar

Agee, A., Hicks, G.R., Carter, D., Raikhel, N.V. (2005) Arabidopsis point mutants *aggregates of GFP fluorescence-1* and *bubblebath-1* are defective in vacuole biogenesis and gravitropism. *16<sup>th</sup> International Conference on Arabidopsis Research* Madison, WI

Norambuena, L., Hicks, G.R., Raikhel, N.V. (2005) Identifying target pathways of Sortin1, a synthetic compound that affects biogenesis and protein targeting to the vacuole. *16<sup>th</sup> International Conference on Arabidopsis Research* Madison, WI

Zouhar, J., Norambuena, L., Hicks, G., Raikhel, N. (2005) Protein targeting and vesicular trafficking. *American Society of Plant Biologists Annual Meeting*, Seattle, WA (July 16-20).

Merrywell, C.E., Hicks, G.R., Raikhel, N.V., and Larive, CK (2005) Metabonomic Analysis of Vacuolar Protein Sorting Inhibitors in *Arabidopsis thaliana*. *Western Region Meeting of the American Chemical Society*

Drakakaki, G., Robert, S., Szatmari, A.M., Brown, M., Girke, T., Friml, J., Russinova, E., Raikhel, N.V., Hicks, G.R. (2009) The Dissection of Endomembrane Trafficking Using Bioactive Chemicals. *20<sup>th</sup> international Conference on Arabidopsis Research* Edinburgh, Scotland, UK

Drakakaki, G., van de Ven, M., Pan, S., Hicks, G.R., and Raikhel, N.V. (2010) Probing trans-Golgi network with chemical genomics and proteomics (2010) *American Society of Plant Biologists Annual Meeting, Montreal, Canada (Jul 31-Aug 4) Abs # P03043.*

Drakakaki, G., van de Ven, M., Pan, S., Hicks, G.R., and Raikhel, N.V. (2010) Probing trans-Golgi network with chemical genomics and proteomics (2010) *American Society of Plant Biologists Annual Meeting, Montreal, Canada (July 31-Aug 4) Abs # M1104.*

Drakakaki, G., Park, E., Worden, N., van de Ven, M., an, S., Robert, S., Szatmari, A-M., Brown, M., Russinova, E., Friml, J., Hicks, G.R., and Raikhel, N.V. (2011) understanding endomembrane trafficking pathways involved in polysaccharide deposition. *American Society of Plant Biologists Annual Meeting, Minneapolis, MN (Aug 6-10) Abs # PO 0307.*

Raikhel, N.V., Drakakaki, G., Robert, S., Brown, M. Szatmari, A-M., Russinova, E., Yang, Z., Friml, J., and Hicks, G.R. (2011) A pollen-based screen for bioactive chemicals to dissect endomembrane trafficking. *American Society of Plant Biologists Annual Meeting, Minneapolis, MN (Aug 6-10) Abs # S043.*

Rivera-Serrano, E., Rodriguez-Welsh, M., Han, S-W., Hicks, G.R., Raikhel, N.V., and Rojas-Pierce, M. (2011) Members of the tonoplast intrinsic protein family are targeted to the vacuole via distinct pathways in Arabidopsis. *American Society of Plant Biologists Annual Meeting, Minneapolis, MN (Aug 6-10) Abs # PO 03022.*

Rivera-Serrano, E., Rodriguez-Welsh, M., Hicks, G.R., Raikhel, N.V., and Rojas-Pierce, M. (2011) Chemical genetics uncovers inhibitors of a Golgi-independent pathway for tonoplast membrane proteins. *International Conference on Arabidopsis Research, Madison, Wisconsin (June 22-25) Abs #21180*

Ung, N., Brown, M., Hicks, G.R., and Raikhel, N.V. (2011) Quantitative analysis of endomembrane dynamics in tobacco pollen. *American Society of Plant Biologists Annual Meeting, Minneapolis, MN (Aug 6-10) Abs # PO 03064*

Raikhel, N.V. and Hicks, G.R. (2012) Chemical biology: Towards a systems view of the endomembrane network. *International Conference on Arabidopsis Research, Vienna, Austria (July 3-7).*

\*Hicks, GR, Zhang, C., Brown, M., Young, M.C., Van de Ven, W., Hooley, R., and Raikhel., N.V. (2013) Chemical Biology Reveals Insights into Endomembrane Trafficking. *European Network for Plant Endomembrane Research (ENPER), Ghent Belgium (Aug 27-31).*

\*speaker

\*Hicks, GR, Zhang, C., Brown, M., Young, M.C., Van de Ven, W., Hooley, R., and Raikhel., N.V. (2013) Chemical Biology Reveals Insights into Endomembrane. *Botaniker Tagung 2013 meeting, Tuebingen, Germany (Sept 30-Oct 4).*

\*Invited Speaker Plenary Lecture

Zhang, C., Brown, M., Young, M.C., van de Ven, W., Hooley, R., Hicks, G.R., Raikhel, N.V. (2013) Development of Chemical Biology Tools to Integrate Plant Membrane Trafficking and Hormonal Signaling. *International Plant Growth Substance Association Conference, Shanghai, China (June 18-22)*

Pizarro L, Osorio C, Vergara A, Rojas-Pierce M, Gutiérrez RA, Hicks GR, Norambuena L (2013) Systems Biology Approach in *Arabidopsis thaliana* identifies a novel transcription factor involved in protein trafficking and regulation of endocytosis. *VIII Reunión de Biología Vegetal, Pucón Chile (Dec 2-5)*

\*Hicks, G.R., Zhang, C., Brown, M.C., Young, M.C., Van de Ven, W., Hooley, R. and Raikhel, N.V. (2013) Chemical Biology Reveals Insights Into Endomembrane Trafficking. *VIII Reunión de Biología Vegetal, Pucón Chile (Dec 2-5)*

\* *Invited Speaker Plenary Lecture*

Zhang, C., Hicks, G.R., Raikhel, N.V. (2014) Small Molecule Endosidin 2 Targets Evolutionary Conserved Exo70 Proteins to Affect Exocytosis. *XVII ENPER Meeting, Roca (Lecce), Italy (Sept 8-11)*.

Rodriguez-Furlan, C., Raikhel, N.V., and Hicks, G.R. (2017) Chemical Tools to Study the Vacuole Fusion Machinery. *20<sup>th</sup> ENPER Meeting, Prague, Czech Republic (Sept 12-15)*.

Many additional abstracts and contributed papers not listed.

## **PUBLICATIONS**

1. Cheng, D.S., D. Park, G.R. Hicks, J. Van Dreser (1986) Transformation of plant protoplasts by electroporation. *Hoefler Scientific Instruments Technical Bulletin* .
2. Hicks, G.R., D.L. Rayle, A.M. Jones, and T.L. Lomax (1989) Specific photoaffinity labeling of two plasma-membrane polypeptides with an azido auxin. *Proc. Natl. Acad. Sci. USA* **86**: 4948-4952.
3. Hicks, G.R., D.L. Rayle, and T.L. Lomax (1989) The *diageotropica* mutant of tomato lacks high specific activity auxin binding sites. *Science* **245**: 52-54.
4. Lomax, T.L. and G.R. Hicks (1992) Auxin-binding proteins in the plasma membrane: Receptors or transporters? *Biochemical Soc. Trans.* **20**: 64-69.
5. Hicks, G.R., M.S. Rice, and T.L. Lomax (1993) Characterization of auxin-binding proteins from zucchini plasma membrane. *Planta* **189**: 83-90.
6. \*Hicks, G.R. and N.V. Raikhel (1993) Specific binding of nuclear localization sequences to plant nuclei. *Plant Cell* **5**: 983-994  
\* *Featured on the journal cover*



7. Hicks, G.R., V. Kovaleva, and N.V. Raikhel (1994) Specific nuclear localization sequence binding to plant nuclei. *In*, Plant Molecular Biology, NATO ASI Series, Vol. H81. Coruzzi, G. and Puigdomenech, eds., pp. 469-479.
8. \*Hicks, G.R. and N.V. Raikhel (1995) Nuclear localization signal binding proteins in higher plant nuclei. *Proc. Natl. Acad. Sci. USA* **92**: 734-738.  
+ *Featured on the journal cover*
9. Hicks, G.R., H.M.S. Smith, M.W. Shieh, and N.V. Raikhel (1995) Three classes of nuclear import signals bind to plant nuclei. *Plant Physiol.* **107**: 1055-1058.
10. Hicks, G.R. and N.V. Raikhel (1995) Protein import into the nucleus: An integrated view.  
*Annu. Rev. Cell Biol. and Dev. Biol.* **11**:155-188.
11. Hicks, G.R., H.M.S. Smith, S. Lobreaux, and N.V. Raikhel (1996) Nuclear import in permeabilized cells from higher plants has unique features. *Plant Cell* **8**: 1337-1352.
12. \*Smith, H.M.S., Hicks, G.R., and N.V. Raikhel (1997) Importin- $\alpha$  from *Arabidopsis* is a nuclear import receptor that recognizes three classes of import signals. *Plant Physiol.* **114**: 411-417  
+ *Featured on the journal cover*
13. Hicks, G.R. and N.V. Raikhel (2001) Vacuoles. *In* Science and Technology 9<sup>th</sup> Edition. McGraw-Hill, ed. (*On line at mhest.com*)
14. Hicks, G.R. (2001) Pathways in plant biology. *Plant Physiol.* **127**: 704-706
15. \*Hicks, G.R., Hironaka, C.M., Dauville D., Funke, R.P., D'Hulst C., Waffenschmidt S., and Ball S.G. (2001) When simpler is better. Unicellular green algae for discovering new genes and functions in carbohydrate metabolism. *Plant Physiol.* **127**: 1334-1338  
+ *Featured on the journal cover*
16. Ball, S., Lienard, L., Wattebled, F., Steup, M., Hicks, G.R., and D'Hulst, C. (2003) Defining the functions of maltodextrin enzymes in starch metabolism in the unicellular alga *Chlamydomonas reinhardtii*. *J. App.l Glycosc.* **50**: 187-189
17. \*Hicks, G.R., Rojo, E., Hong, S., Carter D., and Raikhel, N.V. (2004) Germinating pollen has tubular vacuoles, displays highly dynamic vacuole biogenesis, and requires *VACUOLESS 1* for proper function. *Plant Physiol.* **134**: 1227-1239  
+ *Featured on the journal cover*
18. Zouhar, J., Hicks, G.R., and Raikhel, N.V. (2004) Sorting inhibitors (Sortins): Chemical compounds to study vacuolar sorting in *Arabidopsis*. *Proc. Natl. Acad. Sci. USA* **101(25)**:9497-9501
19. \*Surpin, M, \*Pierce-Rojos, M., \*Carter, C., \*Hicks, G.R., Vasquez, J., and Raikhel, N.V. (2005) The power of chemical genomics to study the link between endomembrane

system components and gravitropic response. *Proc. Natl. Acad. Sci. USA* **102**:4902-4907

*\*Authors contributed equally to work*

20. Hicks, G.R. (2005) Nuclear import of plant proteins. *In Nuclear Import and Export in Plants and Animals*. Tzfira, T. and Citovsky, V., eds., Landes Biosciences, pp.61-82

21. Dauvillée, D., Chochois, V., Steup, M., Haebel, S, Eckermann, N., Ritte, G., Ral, J.P., Colleoni, C., Hicks, G., Wattedled, F., Deschamps, P., d'Hulst, C., Liénard, L., Cournac, L., Putaux, J.L., Dupeyre, D., and Ball, S.G. (2006) Plastidial phosphorylase is required for normal starch synthesis in *Chlamydomonas reinhardtii*. *Plant J.* **48(2)**: 274-285.

22. Walsh, T.A., Neal, R., Merlo, A.O., Honma, M., Hicks, G.R., Wolff, K., Matsumura, W., and Davies, J.P (2006) Mutations in an auxin receptor homolog AFB5 and in SGT1b confer resistance to synthetic picolinate auxins and not to 2,4-dichlorophenoxyacetic acid or indole-3-acetic acid in *Arabidopsis*. *Plant Physiol.* **142(2)**:542-552

23. Walsh, T.A., Bauer, T., Neal, R., Merlo, A.O., Schmitzer, P.R., Hicks, G.R., Honma, M., Matsumura, W., Wolff, K., and Davies, J.P (2007) Chemical genetic identification of glutamine phosphoribosylpyrophosphate amidotransferase as the target for a novel bleaching herbicide in *Arabidopsis*. *Plant Physiol.* **144(3)**:1292-1304

24. Chary, N.S., Hicks, G.R., Choi, Y.G., Carter, D., and Raikhel, N.V. (2007) Trehalose-6-phosphate synthase/phosphatase regulates cell shape and plant architecture in *Arabidopsis*. *Plant Physiol.* **146(1)**:97-107.

25. Raikhel, N.V. and Hicks, G.R. (2007) Signaling from plant endosomes: compartments with something to say! *Genes Dev.* **21**:1578-1580

26. Norambuena, L., Zouhar, J., Hicks, G.R., and Raikhel, N.V. (2008) Identification of cellular pathways affected by Sortin2, a synthetic compound that affects protein targeting to the vacuole in *Saccharomyces cerevisiae*. *BMC Chem. Biol.* **8**:1.

27. Robert, S., Chary, S.N., Drakakaki, G., Li, S., Yang, Z., Raikhel, N.V., and Hicks, G.R. (2008) Endosidin1 Defines a compartment involved in endocytosis of the brassinosteroid receptor BRI1 and the auxin transporters PIN2 and AUX1. *Proc. Natl. Acad. Sci. USA* **105(24)**: 8464-8469.

28. Robert S, Raikhel NV, Hicks GR (2009) Powerful partners: *Arabidopsis* and chemical genomics: January 21, 2009. *The Arabidopsis Book*. Rockville, MD: American Society of Plant Biologists. vol. 7, pp.1-16 doi:10.1199/tab.0109.

29. Norambuena, L., Hicks, G. and Raikhel N.V. (2009) The use of chemical genomics to investigate pathways intersecting auxin-dependent responses and endomembrane trafficking in *Arabidopsis thaliana*. *Methods Mol. Biol.* **495**: 133-143.

30. Norambuena, L., Raikhel, N.V. and Hicks, G.R. (2009) Plant Systems biology: Chemical genomics approaches in plant biology. *Methods Mol. Biol.* **553**: 345-354.

31. Drakakaki, G., Robert, S., Raikhel, N.V., and Hicks, G.R. (2009) Chemical dissection of endosomal pathways. *Plant Signaling and Behavior*. **4(1)**: 57-62.
32. Hicks, G.R. and Raikhel, N.V. (2009) Opportunities and challenges in plant chemical biology. *Nat. Chem. Biol.* **5(5)**: 268-272.
33. Chandra, A., Roze, L., Kang, S., Artymovich, K., Hicks, G.R., Raikhel, N.V., Calvo, A., and Linz, J. (2009) A key role for vesicles in fungal secondary metabolism. *Proc. Natl. Acad. Sci USA* **106(46)**: 19533-19538.
34. Ponts, N., Harris, E.Y., Prudhomme, J., Wick, I., Eckhardt, C., Hicks, G.R., Hardiman, G., Lonardi, S., Le Roch, K. (2010) Nucleosome landscape and control of transcription in the human malaria parasite. *Genome Biol.* **20(2)**: 228-238.
35. Agee, A.E., Surpin, M., Sohn, E.J., Girke, T., Rey, A.R., Carter, C., Wentzell, A.M., Kliebenstein, D.J., Jin, H.C., Park, O.K., Jin, H., Hicks, G.R., Raikhel, N.V. (2010) MODIFIED VACUOLE PHENOTYPE1 Is an *Arabidopsis* Myrosinase-Associated Protein Involved in Endomembrane Protein Trafficking. *Plant Physiol.* **152(1)**: 120-132.
36. Hicks, G.R. and Raikhel, N.V. (2010) Advances in dissecting endomembrane trafficking with small molecules. *Curr. Opin. Plant Biol.* **13(6)**: 706-713.
37. \*Rosado, A., \*Hicks, G.R., Norambuena, L., Zouhar, J., Brown, M.Q., Boirsdore, M/P/, Puckrin, R.S., Cutler, S.R., Rojo, E., and Raikhel, N.V. (2010) Sortin1 hypersensitive mutants define a novel crosstalk between vacuolar trafficking and flavonoid metabolism in *Arabidopsis* vegetative tissues. *Chem. and Biol.* **18(2)**: 187-197.
- \*Authors contributed equally to work*
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