

BIO SKETCH

Dr. Bronwyn Jane Barkla
Associate Professor Level B
Department of Plant Molecular Biology
Instituto de Biotecnología, Universidad Nacional Autónoma de México
Phone: 52 5 622 7656
E-mail bronwyn@ibt.unam.mx

Professional Preparation

1984-1987 **Honours Biology:** University of Toronto, Canada
1987-1989 **Master of Science:** University of Toronto, Canada
1989-1993 **Doctor of Philosophy:** University of Toronto, Canada
1994-1995 **Post-Doctoral:** Department of Plant Sciences, University of Oxford, U.K.

Appointments

2007-Present Researcher Level B, Instituto de Biotecnología, UNAM
2005-2007 Researcher Level A, Instituto de Biotecnología, UNAM
2000-2005 Associate Researcher Level A, Instituto de Biotecnología, UNAM
1995-2000 Assistant Researcher Level C, Instituto de Biotecnología, UNAM
1993-1994 NSERC Post Doctoral Fellow, University of Oxford

Publications (from 2003 to present)

Barkla BJ, Vera-Estrella R, Pantoja O (2009) Quantitative Proteomics of the Tonoplast Reveals a Role for Glycolytic Enzymes in Salt Tolerance. *Plant Cell* 41: 4044-4058.

Vera-Estrella R, Miranda-Vergara MC, Barkla BJ (2009) Zinc tolerance and accumulation in stable cell suspension cultures and in vitro regenerated plants of the emerging model plant *Arabidopsis halleri* (Brassicaceae). *Planta* 229: 977-986.

Barkla BJ, Hirschi KD, Pittman JK (2008) Exchangers man the pumps: functional interplay between proton pumps and proton-coupled Ca²⁺ exchangers. *Plant Signaling and Behaviour* 3:354-356.

Qi Z, Hampton CR, Shin R, Barkla BJ, White PJ, Schachtman DP (2008) The high affinity K⁺ transporter *AtHAK5* plays a physiological role *in planta* at very low K⁺ concentrations and provides a cesium uptake pathway in *Arabidopsis*. *Journal of Experimental Botany*. 59: 595 - 607.

Zhao J, Barkla BJ, Marshall J, Pittman JK, Hirschi KD (2008) The *Arabidopsis cax3* mutants display altered salt tolerance, pH sensitivity and reduced plasma membrane H⁺-ATPase activity. *Planta* 227: 659-669.

Barkla BJ, Vera-Estrella R, Pantoja O (2007) Enhanced separation of membranes during Free Flow Zonal Electrophoresis in plants. *Analytical Chemistry* 79: 5181-5187.

Vera-Estrella R, Barkla BJ, García-Ramírez L, Pantoja O (2005) Salt stress in

- Thellungiella halophila* activates Na⁺ transport mechanisms required for salinity tolerance. *Plant Physiology* 139:1507-1517.
- Shigaki* T, Barkla* BJ, Miranda-Vergara MC, Zhao J, Pantoja O, Hirschi KD (2005) Identification of a crucial histidine involved in metal transport activity in the Arabidopsis cation/H⁺ exchanger CAX1. *Journal of Biological Chemistry* 280: 30136-30142.
- Qiu Q-S, Barkla BJ, Vera-Estrella R, Zhu J-K, Schumaker KS (2003) Na⁺/H⁺ exchange activity in the plasma membrane of *Arabidopsis thaliana*. *Plant Physiology* 132: 1-12.
- Cheng N-H, Pittman JK, Barkla BJ, Shigaki T, Hirschi KD (2003) The Arabidopsis *cax1* mutant exhibits impaired ion homeostasis, development, and hormonal responses, and reveals interplay among vacuolar transporters. *Plant Cell* 15: 347-364.

Synergistic Activities

Reviewer: Journals: Plant Cell, Functional Plant Biology, Plant Physiology, Plant Cell and Environment, Plant Science, Analytical Chemistry, Langmuir, Plant Molecular Biology, Journal of Experimental Botany, Bioresource Technology and Journal of Proteome Research.

Conference and Short Course Co-organizer:

Joint EBI – MEXICAN SOCIETY OF PROTEOMICS – Proteomics Bioinformatics Roadshow, Mexico May 2nd to May 6th, 2011

1st Pan-American Plant Membrane Biology Workshop, México, May 28 – June 1, 2003

3rd Pan-American Plant Membrane Biology Workshop, Mexico, Jan. 13th-16th, 2010..

1st Mexican Proteomics Society Course, Mexico, April 20th to April 24th 2009

Professional Societies Boards:

Board of Directors – Mexican Proteomics Society 2007-2010.

Vice President – Mexican Proteomics Society 2010-2013