

Kevin Michalski

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1 Bungtown Road, Cold Spring Harbor, NY 11724

EDUCATION

Cornell University, Ithaca, NY, USA

PhD in Biochemistry

Awarded July 2018

Siena College, Albany, NY, USA

BS in Biochemistry

Awarded May 2012

RESEARCH

Cold Spring Harbor Laboratory, Cold Spring Harbor NY

2018-

Postdoctoral Researcher

Advised by: Hiro Furukawa

Cornell University, Ithaca NY

2012 - 2018

Graduate Researcher

Advised by: Toshi Kawate, department of Molecular Medicine

Crystallization of a pannexin-1 channel

- Screened hundreds of protein variations for stability, expression, and purification
- Optimized crystal diffraction to 4.8 Å

Mechanisms of inhibition and activation of pannexin-1

- Used chimeric channels to identify domains responsible for inhibition by small molecules
- Screened and characterized channel binding mutants defective in inhibition by popular compounds
- Characterized the role of the amino terminus in channel activity and voltage sensitivity
- Probed the accessibility of extracellular and transmembrane domains using cys-reactive reagents

Mechanisms of P2X7 activation

- Investigated a putative interaction between P2X7 and palmitoyltransferase DHHC enzymes

Siena College, Albany NY

2010-2012

Undergraduate Researcher

Advised by: Rachel Sterne-Marr, department of Biology

Investigating the interaction of GRK2 with GPCR substrates

- Cloned and purified various GRK2 mutants from insect cells
- Executed a repertoire of radioactive assays for measuring phosphorylation of GPCR substrates
- Developed a western blot assay for measuring phosphorylation of the β 2-adrenergic receptor
- Recipient of "Significant achievement in biochemistry research" department award

PUBLICATIONS

Karasawa A, **Michalski K**, Mikhelzon P, Kawate T. The P2X7 receptor forms a dye-permeable pore independent of its intracellular domain but dependent on membrane lipid composition. 2017. *Elife*. e31186. (PMID: [28920575](https://pubmed.ncbi.nlm.nih.gov/28920575/))

Michalski K, Kawate T. Carbenoxolone inhibits Pannexin1 channels through interactions in the first extracellular loop. 2016. *J Gen Physiol*. 147(2):165-74. ([26755773](#))

Beautrait A, **Michalski KR**, Lopez TS, Mannix KM, McDonald DJ, Cutter AR, Medina CB, Hebert AM, Francis CJ, Bouvier M, Tesmer JJ, Sterne-Marr R. Mapping the putative G protein-coupled receptor (GPCR) docking site on GPCR kinase 2: insights from intact cell phosphorylation and recruitment assays. 2014. *J Biol Chem*. 289(36):25262-75. ([25049229](#))

Laflamme BA, Avila FW, **Michalski K**, Wolfner MF. A Drosophila protease cascade member, seminal metalloprotease-1, is activated stepwise by male factors and requires female factors for full activity. 2014. *Genetics*. 196(4):1117-29. ([24514904](#))

Sterne-Marr R, Baillargeon AI, **Michalski KR**, Tesmer JJ. Expression, purification, and analysis of G-protein-coupled receptor kinases. 2013. *Methods Enzymol*. 521:347-66. ([23351749](#))

Manuscripts Under Revision

Michalski K*, Henze E*, Nguyen P, Lynch P, Kawate T. Modifying the amino-terminus augments voltage-dependent channel activity of pannexin 1.

CONFERENCE PRESENTATIONS

Michalski K and Kawate T. Subtle changes to the N-terminus of pannexin-1 alters channel activity. Annual Biophysics Society meeting, San Francisco CA, Feb 2018. Poster.

Michalski K and Kawate T. Searching for a voltage sensor intrinsic to pannexin-1 channels. Annual Biophysics Society meeting, New Orleans LA, Feb 2017. Poster.

Michalski KR, Lopez TS, Mannix KM, McDonald DJ, Cutter AR, Medina CB, Hebert AM, Francis CJ, Bouvier M, Tesmer JJ, Sterne-Marr R. Characterizing the GRK2 N-terminal region. Phosphorylation and G Protein Signaling Mediated Networks Gordon Conference, Biddeford ME, June 2012. Poster.

TEACHING EXPERIENCE

Cornell University

Teaching Assistant
Introduction to Cell & Developmental Biology

Spring 2015

Expanding Your Horizons
Volunteer instructor

Spring 2015

Siena College

Teaching Assistant
Scientific Writing

Fall 2009, Spring 2010

REFERENCES

Toshi Kawate, PhD

Associate professor, department of Molecular Medicine, Cornell University, Ithaca NY

Relationship: Advisor / Principal Investigator

Email: tk499@cornell.edu

[Lab website](#)

Akira Karasawa, PhD

Research associate, department of Molecular Medicine, Cornell University, Ithaca NY

Relationship: Lab-mate / Coworker

Email: karayan80@gmail.com