

James Baraniak, PhD

Staff Scientist



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Practice Areas

Intellectual Property Protection

Education

Pennsylvania State University
PhD (2021) Biomedical Sciences

Arizona State University
BS (2011) Biochemistry, *summa cum laude*

Dr. James Baraniak assists Choate's life sciences clients by utilizing his background in biomedical sciences, clinical research, and biochemistry to help with the preparation and prosecution of patent applications, as well as freedom-to-operate and patentability analyses.

Industry Experience

After his undergraduate degree, James was as a research assistant at Clinical Research Advantage, where he assisted the clinical coordinators and helped with the analysis of lab reports, vitals, drug compliance, patient medical history, perform venipuncture, processing of lab specimens, and administer vaccines. His exemplary work garnered him a promotion to the role of clinical research coordinator I at Radiant Research, where he directly managed clinical trials and worked directly with the principal investigator in trial analysis.

James then received his PhD in biomedical sciences from Penn State University, and was supported by the NIH through a F31 grant. His graduate research focused on two highly interconnected protein families involved in a calcium homeostatic process known as store-operated calcium entry. Using a novel set of membrane-tethering peptides, he discovered a new mechanistic paradigm for their interaction between each other. While pursuing his PhD, James completed courses for understanding intellectual property law through UPenn/edX.

Publications and Presentations

- "The unfolding and activation of STIM1 in store-operated calcium signal generation," co-author, *Cell Calcium*, January 2022
- "Orai channel C-terminal peptides are key modulators of STIM-Orai coupling and calcium signal generation," first author, *Cell Reports*, June 2021
- "Remote light-activation of native Orai channels," co-author, *Cell Research*, March 2021
- "The intricate coupling between STIM proteins and Orai channels," first author, *Current Opinion in Physiology*, October 2020
- "The Orai C-terminal M4x peptide defines the STIM-Orai interface," presenter, Biophysical Society 64th Annual Meeting, February 2020
- "The remote allosteric control of Orai channel gating," co-author, *PLoS Biology*, August 2019

- “Direct interactions of the c-terminal M4-ext peptides of Orai channels with STIM 1,” presenter, Biophysical Society 63rd Annual Meeting, March 2019
- “Pore properties of Orai1 calcium channel dimers and their activation by the STIM1 ER calcium sensor,” co-author, *Journal of Biological Chemistry*, August 2018