

# CASEY J. KRUSEMARK

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## EDUCATION

- 2007 **University of Wisconsin-Madison**  
Ph. D. Biochemistry
- 2001 **University of Illinois at Urbana-Champaign**  
B.S. Chemistry, Summa Cum Laude  
B.S. Crop Science, with Highest Honors

## POSITIONS HELD

- 2020-present *Associate Professor, **Purdue University***  
Department of Medicinal Chemistry and Molecular Pharmacology
- 2013-2020 *Assistant Professor, **Purdue University***  
Department of Medicinal Chemistry and Molecular Pharmacology
- 2007-2013 *Post-doctoral Researcher/Fellow, **Stanford University***  
Department of Biochemistry  
Laboratory of Dr. Pehr Harbury, Co-advisor, Dr. Patrick O. Brown
- 2001- 2007 *Graduate Student Researcher, **University of Wisconsin-Madison***  
Department of Biochemistry  
Laboratory of Dr. Peter Belshaw
- 2004 *Intern, **Sunesis Pharmaceuticals***  
Mass Spectrometry Division under Dr. Mark Cancilla
- 1997-2001 *Undergraduate Researcher/Lab Technician, **University of Illinois at Urbana-Champaign***  
Department of Crop Sciences/Agronomy  
Laboratory of Dr. Jack Widholm

## MEMBERSHIPS OF PROFESSIONAL SOCIETIES

American Chemical Society  
American Peptide Society  
International Chemical Biology Society

## SELECTED PUBLICATIONS

**Cai, B.\***, **Mhetre, A. B.**, **Krusemark, C. J.<sup>‡</sup>**, "Enzyme-mediated Proximity Labelling for Enrichment of DNA-linked Ligands from DNA-encoded Libraries." *Chemical Science*. **2023**, *14*, 245-250.

**Wang, S.\***, Hadisurya, M., Tao, W. A., Dykhuizen, E. C., **Krusemark, C. J.<sup>‡</sup>**, "Covalent Protein Inhibitors via Tyrosine Conjugation with Cyclic Imine Mannich Electrophiles." *ChemRxiv*  
[10.26434/chemrxiv-2022-tvgn1](https://doi.org/10.26434/chemrxiv-2022-tvgn1)

**Cai, B. \***, El Daibani, A., Che, T., **Krusemark, C. J.**<sup>‡</sup>, "Direct Selection of DNA-encoded Libraries for Biased Agonists of Opioid Receptors on Live Cells." *JACS Au*. **2023**, 3, 4, 1076-1088.

**Cai, B. \***, **Krusemark, C. J.**<sup>‡</sup>, "Multiplexed Small Molecule Ligand Binding Assays by Affinity Labeling and DNA Sequence Analysis." *Angewandte Chemie Int. Ed.* **2022**, 61, 3, e202113515. PMID: 34758183

**Wang, S. \***, Alpsoy, A., Sood, S., Dhiman, A., Ordonex-Rubiano, S., Sun, Y., Jiao, G., **Krusemark, C. J.**, Dykhuizen, E. C. <sup>‡</sup>, "Discovery and Characterization of a Potent, Selective, and Cellularly Active CBX2 Chromodomain Ligand." *ChemBioChem*. **2021**, 22, 2335-2344. PMID: 33950564

**Wang, S. \***, Ordonex-Rubiano, S. C., Dhiman, A., Guanming, J., Strohmier, B. P., **Krusemark, C. J.**, Dykhuizen, E. C. <sup>‡</sup>, "Polycomb group proteins in cancer: multifaceted functions and strategies for modulation." *NAR Cancer*. **2021**, 3, 4, <https://doi.org/10.1093/narcan/zcab039> PMID: 34617019

**Wang, S. \***, **Denton, K. E.**, Hobbs, K. F., Weaver, T. M., McFarlane, J., Connelly, K. E., Gignac, M. C., Milosevich, N., Hof, F., Paci, I., Musselman, C. A., Dykhuizen, E. C. <sup>‡</sup>, **Krusemark, C. J.** <sup>‡</sup>, "Development of Selective, Cell-permeable CBX8 Chromodomain Ligands using DNA-encoded Libraries." *ACS Chemical Biology*. **2020**, 15, 1, 112-131. PMID: 31755685

**Cai, B. \***, **Kim, D.**, Akhand, S., **Sun, Y.**, Cassell, R. J., Alpsoy, A., Dykhuizen, E. C., Van Rijn, R. M., Wendt, M. K., **Krusemark, C. J.** <sup>‡</sup>, "Selection of DNA-encoded Libraries to Protein Targets Within and On Living Cells." *Journal of the American Chemical Society*. **2019**, 141, 17057-17061. PMID: 31613623

Kim, D., Sun, Y., Xie, D., Denton, K. E., Chen, H., Lin, H., Wendt, M. K., Post, C. B., **Krusemark, C. J.**, "Application of a Substrate-mediated selection with c-Src tyrosine kinase to a DNA-encoded library." *Molecules*. **2019**, 24, 2764. PMID: 31366048

Shinde, A., Hardy, S. D., Kim, D., Akhand, S. S., Jolly, M. K., Wang, W., Anderson, J. C., Khodadadi, R. B., Brown, W. S., George, J. T., Liu, S., Wan, J., Levine, H., Willey, C. D., **Krusemark, C. J.**, Geahlen, R. L., Wendt, M. K., "Spleen Tyrosine Kinase-mediated Autophagy is Required for Epithelial-mesenchymal Plasticity and Metastasis in Breast Cancer." *Cancer Research*. **2019**, 79(8), 1831-1843. PMID: 30733195

Denton, K. E., Wang, S., Gignac, M. C., Milosevich, N., Hof, F., Dykhuizen, E. C., **Krusemark, C. J.**, "Robustness of In Vitro Selection Assays of DNA-encoded Peptidomimetic Ligands to CBX7 and CBX8." *SLAS Discovery*, **2018**, 23, 417-428. PMID: 29309209

Kim, D., Jetson, R. R., **Krusemark, C. J.**, "A DNA-assisted Immunoassay for Enzyme Activity via a DNA-linked, Activity-based Probe." *Chem. Comm.* **2017**, 53, 9474-9477. PMID: 28795701

Denton, K. E., **Krusemark, C. J.**, "Crosslinking of DNA-linked ligands to target proteins for enrichment from DNA-encoded libraries." *MedChemComm*. **2016**, 7, 2020-2027. PMID: 28948007

Jetson, R. R., **Krusemark, C. J.**, "Sensing enzymatic activity by exposure and selection of DNA-encoded probes." *Angewandte Chemie Int. Ed.* **2016**, 55, 9562-9566. PMID: 27355201

**Krusemark, C. J.**, Tilmans, N. P., Brown, P. O., Harbury, P. B., "Directed chemical evolution with an outsized genetic code." *PLoS One*. **2016**, 11(8) e0154765. PMID: 27508294