



# Catherine Guzzo

## Technology Specialist, Patent Agent

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## Overview

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### About Catherine

Kate Guzzo, Ph.D., is a Technology Specialist in the Boston office of Fish & Richardson P.C. She focuses her practice on patent prosecution support in the life sciences, including drafting and prosecuting patent applications, crafting arguments and responses to USPTO and foreign patent office communications, and performing patentability, freedom-to-operate, inventorship, landscape, and diligence assessments. Her areas of technical expertise include cell-, protein-, and nucleic acid-based therapies, CAR-T cell therapies, genetic editing using CRISPR, synthetic biology tools, and medical devices. Dr. Guzzo has extensive experience in biochemistry and molecular biology, including postdoctoral fellowships at the Dana-Farber Cancer Institute and Johns Hopkins University, and has authored scientific papers in numerous peer-reviewed journals. Prior to joining Fish, she worked at another large law firm, where she assisted in establishing a biotechnology practice group.

### Focus Areas

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#### Services

- Patent

#### Industries

- Chemicals

## Education

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J.D. expected, Suffolk University Law School (2022)

Ph.D., Chemistry, Georgetown University (2007)

B.A., Chemistry and Biochemistry, LaSalle University (2000)

## Insights

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### Publications

Uzoma I, Hu J, Cox E, Xia S, Zhou J, Rho HS, Guzzo C, Paul C, Ajala O, Goodwin CR, Jeong J, Moore C, Zhang H, Meluh P, Blackshaw S, Matunis M, Qian J, Zhu H. Global Identification of Small Ubiquitin-related Modifier (SUMO) Substrates Reveals Crosstalk between SUMOylation and Phosphorylation Promotes Cell Migration. *Mol Cell. Proteom.* 17(5):871-888, 2018.

Guzzo C. To Modify or Not to Modify, That is the Question. Wolf Greenfield: The Post Grant Strategist, 2017.

Cox E, Hwang W, Uzoma I, Hu J, Guzzo C, Jeong J, Matunis M, Qian J, Zhu H, Blackshaw S. Global Analysis of SUMO-Binding Proteins Identifies SUMOylation as a Key Regulator of the INO80 Chromatin Remodeling Complex. *Mol Cell. Proteom.* 16(5):812-823, 2017.

Cox E, Uzoma I, Guzzo C, Jeong JS, Matunis M, Blackshaw S, Zhu H. Identification of SUMO E3 ligase-specific substrates using the HuProt human proteome microarray. *Methods Mol. Biol.* 1295:455-63, 2015.

Guzzo CM, Ringel A, Cox E, Uzoma I, Zhu H, Blackshaw S, Wolberger C, Matunis MJ. Characterization of the SUMO-Binding Activity of the Myeloproliferative and Mental Retardation-Type Zinc Fingers in ZNF261 and ZNF198. *PLoS One.* 18;9(8):e105271, 2014.

Coey CT, Fitzgerald ME, Maiti A, Reiter KH, Guzzo CM, Matunis MJ, Drohat AC. E2-mediated small ubiquitin-like modifier (SUMO) modification of thymine DNA glycosylase is efficient but not selective for the enzyme-product complex. *JBC.* 289:15810-10, 2014.

Wiener R, DiBello A, Lombardi PM, Guzzo CM, Zhang X, Matunis MJ, Wolberger C. E2 Ubiquitin Conjugating Enzymes Regulate the Deubiquitinating Activity of OTUB1. *Nat. Struct. Mol. Bio.* 9:1033-9, 2013.

Guzzo, CM and Matunis, MJ. Expanding SUMO and Ubiquitin-Mediated Signaling Through Hybrid SUMO-Ubiquitin Chains and their Receptors. *Cell Cycle*. 12(7):1015-7, 2013.

Invited Review:

Guzzo, CM, Berndsen, CE, Zhu, J, Gupta, V, Datta, A, Greenberg, RA, Wolberger, C, Matunis, MJ. RNF4-Dependent Hybrid SUMO-Ubiquitin Chains are Signals for RAP80/BRCA1 Recruitment to Sites of DNA Damage. *Sci. Signal*. 5:253, 2012.

Matunis MJ, Guzzo CM. SUMO, PTEN and Tumor Suppression. *Pigment Cell Melanoma Res. Pigment Cell Melanoma Res.* 25(6), 2012.

Li R, Wang L, Liao G, Guzzo CM, Matunis MJ, Zhu H, Hayward SD. (2012) SUMO binding by the Epstein-Barr virus protein kinase BGLF4 is crucial for BGLF4 function. *J. Virol.* 86(10):5412-21, 2012.

Zhu, J, Zhu, S, Guzzo, CM, Ellis, N, Sung, KS, Choi, CY, Matunis, MJ. SUMO Binding Determines Substrate Recognition and Paralog-Selective SUMO Modification. *JBC.* 283:29405-15, 2008.

Guzzo, CM, Yang, DCH. Lysyl-tRNA Synthetase Interacts with EF1alpha, Aspartyl-tRNA synthetase and p38 In Vitro. *Biochem. Biophys. Res. Commun.* 365:718-723, 2008.

Guzzo, CM, Yang, DCH. Systematic Analysis of Fusion and Affinity Tags using Human Aspartyl-tRNA Synthetase Expressed in E. coli. *Protein Expr. Purif.* 54:166-175, 2007.

### **Speaking Engagements**

“Hybrid SUMO-Ubiquitin Chains as Signals for the DNA Damage Response,” The American Society for Biochemistry and Molecular Biology, Annual Meeting, Boston, MA (2013)

“Identification of SUMO-Binding Proteins Using Protein Microarrays,” Ubiquitin Drug Discovery and Diagnostics Conference, Annual Meeting, Philadelphia, PA (2010)