Stanford

Tom Wandless

Professor of Chemical and Systems Biology, Emeritus

Bio

ACADEMIC APPOINTMENTS

- Emeritus Faculty, Acad Council, Chemical and Systems Biology
- Member, Bio-X
- Member, Stanford Cancer Institute

PROFESSIONAL EDUCATION

- Ph.D., Harvard University , Chemistry (1993)
- B.S., Trinity University , Biochemistry (1988)

Teaching

COURSES

2025-26

- Research Seminar: CSB 270 (Aut, Win, Spr)

2024-25

- Research Seminar: CSB 270 (Aut, Win, Spr)

2023-24

- Research Seminar: CSB 270 (Aut, Win, Spr)

2022-23

- Research Seminar: CSB 270 (Aut, Win, Spr)

Publications

PUBLICATIONS

- **p53 engagement is a hallmark of an unfolded protein response in the nucleus of mammalian cells.** *bioRxiv : the preprint server for biology*
  Park, J. H., Wandless, T. J.
  2024
- **Ubiquitin-Derived Fragment as a Peptide Linker for the Efficient Cleavage of a Target Protein from a Degron.** *ACS chemical biology*
  Utsugi, Y., Nishimura, K., Yamanaka, S., Nishino, K., Kosako, H., Sawasaki, T., Shigemori, H., Wandless, T. J., Miyamae, Y.
  2024
- **A cAMP Sensor Based on Ligand-Dependent Protein Stabilization.** *ACS chemical biology*
  Sidoli, M., Chen, L., Lu, A. J., Wandless, T. J., Talbot, W. S.

2022

- **Transient rest restores functionality in exhausted CAR-T cells through epigenetic remodeling.** *Science (New York, N.Y.)*
  Weber, E. W., Parker, K. R., Sotillo, E., Lynn, R. C., Anbunathan, H., Lattin, J., Good, Z., Belk, J. A., Daniel, B., Klysz, D., Malipatlolla, M., Xu, P., Bashti, et al
  2021; 372 (6537)

- **A method to rapidly create protein aggregates in living cells** *NATURE COMMUNICATIONS*
  Miyazaki, Y., Mizumoto, K., Dey, G., Kudo, T., Perrino, J., Chen, L., Meyer, T., Wandless, T. J.
  2016; 7

- **BACH2 regulates T cell lineage state to enhance CAR T cell function.** *Nature immunology*
  Chang, T. C., Heard, A., Lattin, J., Warrington, J. M., Barrett, A., Landmann, J. H., Tenzin, Y., Ganesh, V., Thompson, B., Afrin, S., Gupta, D. K., Chang, J. F., Ritchey, et al
  2026

- **A Method for Conditional Regulation of Protein Stability in Native or Near-Native Form.** *Cell chemical biology*
  Miyamae, Y. n., Chen, L. C., Utsugi, Y. n., Farrants, H. n., Wandless, T. J.
  2020

- **Titratable and Reversible Regulation of Therapeutic Proteins in Cell and Gene Therapies Using FDA Approved Drugs and a Modular Protein Stabilization Platform**
  Suri, V., Inniss, M., Shamah, S., Wandless, T.
  CELL PRESS.2019: 40–41

- **Methods to enable regulated gene therapy**
  Wandless, T.
  AMER CHEMICAL SOC.2018

- **A Novel Destabilizing Domain Based on a Small-Molecule Dependent Fluorophore** *ACS CHEMICAL BIOLOGY*
  Navarro, R., Chen, L., Rakhit, R., Wandless, T. J.
  2016; 11 (8): 2101-2104

- **Distinct transcriptional responses elicited by unfolded nuclear or cytoplasmic protein in mammalian cells** *ELIFE*
  Miyazaki, Y., Chen, L., Chu, B. W., Swigut, T., Wandless, T. J.
  2015; 4

- **Using light to shape chemical gradients for parallel and automated analysis of chemotaxis.** *Molecular systems biology*
  Collins, S. R., Yang, H. W., Bonger, K. M., Guignet, E. G., Wandless, T. J., Meyer, T.
  2015; 11 (4): 804-?

- **Chemical Biology Strategies for Posttranslational Control of Protein Function** *CHEMISTRY & BIOLOGY*
  Rakhit, R., Navarro, R., Wandless, T. J.
  2014; 21 (9): 1238-1252

- **Chemical biology strategies for posttranslational control of protein function.** *Chemistry & biology*
  Rakhit, R., Navarro, R., Wandless, T. J.
  2014; 21 (9): 1238-1252

- **General method for regulating protein stability with light.** *ACS chemical biology*
  Bonger, K. M., Rakhit, R., Payumo, A. Y., Chen, J. K., Wandless, T. J.
  2014; 9 (1): 111-115

- **The E3 ubiquitin ligase UBE3C enhances proteasome processivity by ubiquitinating partially proteolyzed substrates.** *journal of biological chemistry*
  Chu, B. W., Kovary, K. M., Guillaume, J., Chen, L., Teruel, M. N., Wandless, T. J.
  2013; 288 (48): 34575-34587

- **Inducible control of gene expression with destabilized Cre** *NATURE METHODS*
  Sando, R., Baumgaertel, K., Pieraut, S., Torabi-Rander, N., Wandless, T. J., Mayford, M., Maximov, A.
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- **FK506 activates BMPR2, rescues endothelial dysfunction, and reverses pulmonary hypertension.** *journal of clinical investigation*
  Spiekerkoetter, E., Tian, X., Cai, J., Hopper, R. K., Sudheendra, D., Li, C. G., El-Bizri, N., Sawada, H., Haghighat, R., Chan, R., Haghighat, L., de Jesus Perez, V., Wang, et al
  2013; 123 (8): 3600-3613

- **Par-4 Downregulation Promotes Breast Cancer Recurrence by Preventing Multinucleation following Targeted Therapy** *CANCER CELL*
  Alvarez, J. V., Pan, T., Ruth, J., Feng, Y., Zhou, A., Pant, D., Grimley, J. S., Wandless, T. J., DeMichele, A., Chodosh, L. A.
  2013; 24 (1): 30-44

- **Visualizing cellular interactions with a generalized proximity reporter.** *Proceedings of the National Academy of Sciences of the United States of America*
  Sellmyer, M. A., Bronsart, L., Imoto, H., Contag, C. H., Wandless, T. J., Prescher, J. A.
  2013; 110 (21): 8567-8572

- **Rapid and tunable control of protein stability in Caenorhabditis elegans using a small molecule.** *PloS one*
  Cho, U., Zimmerman, S. M., Chen, L., Owen, E., Kim, J. V., Kim, S. K., Wandless, T. J.
  2013; 8 (8)

- **Rapid and Tunable Control of Protein Stability in Caenorhabditis elegans Using a Small Molecule.** *PloS one*
  Cho, U., Zimmerman, S. M., Chen, L., Owen, E., Kim, J. V., Kim, S. K., Wandless, T. J.
  2013; 8 (8)

- **Networks of Polarized Actin Filaments in the Axon Initial Segment Provide a Mechanism for Sorting Axonal and Dendritic Proteins** *CELL REPORTS*
  Watanabe, K., Al-Bassam, S., Miyazaki, Y., Wandless, T. J., Webster, P., Arnold, D. B.
  2012; 2 (6): 1546-1553

- **Intracellular Context Affects Levels of a Chemically Dependent Destabilizing Domain** *PLOS ONE*
  Sellmyer, M. A., Chen, L., Egeler, E. L., Rakhit, R., Wandless, T. J.
  2012; 7 (9)

- **Differential Trafficking of Transport Vesicles Contributes to the Localization of Dendritic Proteins** *CELL REPORTS*
  Al-Bassam, S., Xu, M., Wandless, T. J., Arnold, D. B.
  2012; 2 (1): 89-100

- **Destabilizing Domains Derived from the Human Estrogen Receptor** *JOURNAL OF THE AMERICAN CHEMICAL SOCIETY*
  Miyazaki, Y., Imoto, H., Chen, L., Wandless, T. J.
  2012; 134 (9): 3942-3945

- **Imaging the Impact of Chemically Inducible Proteins on Cellular Dynamics In Vivo** *PLOS ONE*
  Leong, H. S., Lizardo, M. M., Ablack, A., McPherson, V. A., Wandless, T. J., Chambers, A. F., Lewis, J. D.
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- **Ligand-switchable Substrates for a Ubiquitin-Proteasome System** *JOURNAL OF BIOLOGICAL CHEMISTRY*
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  Rakhit, R., Edwards, S. R., Iwamoto, M., Wandless, T. J.
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- **Chemical Control of FGF-2 Release for Promoting Calvarial Healing with Adipose Stem Cells** *JOURNAL OF BIOLOGICAL CHEMISTRY*
  Kwan, M. D., Sellmyer, M. A., Quarto, N., Ho, A. M., Wandless, T. J., Longaker, M. T.
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- **Asparagine repeat function in a Plasmodium falciparum protein assessed via a regulatable fluorescent affinity tag** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
  Muralidharan, V., Oksman, A., Iwamoto, M., Wandless, T. J., Goldberg, D. E.
  2011; 108 (11): 4411-4416
- **A General Chemical Method to Regulate Protein Stability in the Mammalian Central Nervous System** *CHEMISTRY & BIOLOGY*
  Iwamoto, M., Bjorklund, T., Lundberg, C., Kirik, D., Wandless, T. J.
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- **A Plant-Like Kinase in Plasmodium falciparum Regulates Parasite Egress from Erythrocytes** *SCIENCE*
  Dvorin, J. D., Martyn, D. C., Patel, S. D., Grimley, J. S., Collins, C. R., Hopp, C. S., Bright, A. T., Westenberger, S., Winzeler, E., Blackman, M. J., Baker, D. A., Wandless, T. J., Duraisingh, et al
  2010; 328 (5980): 910-912
- **Dicistronic regulation of fluorescent proteins in the budding yeast Saccharomyces cerevisiae** *YEAST*
  Edwards, S. R., Wandless, T. J.
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- **General Methods to Conditionally Regulate Protein Function**
  Wandless, T. J.
  FEDERATION AMER SOC EXP BIOL.2010
- **A general method to rapidly and reversibly regulate protein function using synthetic small molecules**
  Banaszynski, L. A., Wandless, T. J.
  AMER CHEMICAL SOC.2009: 590
- **A general method for conditional regulation of protein stability in living animals.** *Cold Spring Harbor protocols*
  Sellmyer, M. A., Thorne, S. H., Banaszynski, L. A., Contag, C. H., Wandless, T. J.
  2009; 2009 (3): pdb prot5173-?
- **Regulating protein stability in mammalian cells using small molecules.** *Cold Spring Harbor protocols*
  Hagan, E. L., Banaszynski, L. A., Chen, L., Maynard-Smith, L. A., Wandless, T. J.
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- **The proteasome makes sense of mixed signals** *NATURE CHEMICAL BIOLOGY*
  Wandless, T. J.
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- **Recent progress with FKBP-derived destabilizing domains** *BIOORGANIC & MEDICINAL CHEMISTRY LETTERS*
  Chu, B. W., Banaszynski, L. A., Chen, L., Wandless, T. J.
  2008; 18 (22): 5941-5944
- **Chemical control of protein stability and function in living mice** *NATURE MEDICINE*
  Banaszynski, L. A., Sellmyer, M. A., Contag, C. H., Wandless, T. J., Thorne, S. H.
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- **Tunable control of FGF-2 secretion for skeletal tissue engineering**
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  Grimley, J. S., Sawayama, A. M., Tanaka, H., Stohlmeyer, M. M., Woiwode, T. E., Wandless, T. J.
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  Grimley, J. S., Wandless, T. J.
  AMER CHEMICAL SOC.2006
- **A rapid, reversible, and tunable method to regulate protein function in living cells using synthetic small molecules** *CELL*
  Banaszynski, L. A., Chen, L., Maynard-Smith, L. A., Ooi, A. G., Wandless, T. J.
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  Edwards, Wandless, T. J.
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