



Steven M. Corsello

Assistant Professor of Medicine (Oncology) and, by courtesy, of Chemical and Systems Biology

Medicine - Oncology

CLINICAL OFFICE (PRIMARY)

- **Stanford Cancer Center**

875 Blake Wilbur Dr

Clinic A MC 6560

Stanford, CA 94305

Tel (650) 498-6000

Fax (650) 723-8748

ACADEMIC CONTACT INFORMATION

- **Administrative Contact**

Suzette Rodriguez - Administrative Associate

Email suzetter@stanford.edu

Tel 650-497-1582

Bio

BIO

I am a physician scientist and medical oncologist at Stanford University. My laboratory operates at the intersection of functional genomics and chemical biology, with the goal of advancing novel molecular mechanisms of cancer inhibition to clinical use. We aim to 1) leverage phenotypic screening and functional genomics to determine novel anti-cancer mechanisms of small molecules, 2) develop new targeted therapy approaches against solid tumors, and 3) build a comprehensive community resource for drug repurposing discovery.

CLINICAL FOCUS

- Medical Oncology

ACADEMIC APPOINTMENTS

- Assistant Professor, Medicine - Oncology
- Assistant Professor (By courtesy), Chemical and Systems Biology
- Member, Bio-X
- Faculty Fellow, Sarafan ChEM-H
- Member, Stanford Cancer Institute

HONORS AND AWARDS

- Shmunis Family Innovation Award in Cancer Therapeutics, Stanford Cancer Institute (2023)
- The Josephine Q. Berry Faculty Scholar in Cancer Research, Stanford University (2022)
- The 20 under 40 in BioPharma, Endpoints News (2020)
- Young Physician Scientist Award, American Society for Clinical Investigation (2020)
- K08 Clinical Scientist Research Career Development Award, National Cancer Institute (2018)
- Next Generation Award, Broad Institute (2018)
- Young Investigator Award, American Society of Clinical Oncology (2014)

- Howard Hughes Medical Institute Research Fellowship, HHMI (2005)
- Alexandra J. Miliotis Research Fellowship in Pediatric Oncology, Miliotis Foundation (2004)
- Phi Beta Kappa, Harvard University (2003)
- Thomas Temple Hoopes Prize for outstanding senior thesis, Harvard University (2003)

PROFESSIONAL EDUCATION

- Board Certification: Internal Medicine, American Board of Internal Medicine (2023)
- Board Certification: Hematology, American Board of Internal Medicine (2014)
- Board Certification: Medical Oncology, American Board of Internal Medicine (2014)
- Fellowship: Dana Farber Cancer Institute Hematology Oncology Fellowship (2014) MA
- Residency: Massachusetts General Hospital Internal Medicine Residency (2011) MA
- Medical Education: Harvard Medical School (2008) MA
- AB, Harvard University, Biochemical Sciences (2003)

LINKS

- Corsello Lab Website: <http://corsellolab.stanford.edu>

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

Our laboratory operates at the intersection of functional genomics and chemical biology, with the goal of advancing novel molecular mechanisms of cancer inhibition to clinical use. We aim to 1) leverage phenotypic screening and functional genomics to determine novel anti-cancer mechanisms of small molecules, 2) develop new targeted therapy approaches against solid tumors, and 3) build a comprehensive community resource for drug repurposing discovery.

Teaching

STANFORD ADVISEES

Postdoctoral Faculty Sponsor

Linjie Yuan

Doctoral Dissertation Advisor (AC)

Michelle Tang

GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Cancer Biology (Phd Program)
- Oncology (Fellowship Program)

Publications

PUBLICATIONS

- **RAS/RAF co-mutation and ERBB2 copy number modulates HER2 heterogeneity and responsiveness to HER2-directed therapy in colorectal cancer.** *Clinical cancer research : an official journal of the American Association for Cancer Research*
Singh, H., Sahgal, P., Kapner, K., Corsello, S. M., Gupta, H., Gujrathi, R., Li, Y. Y., Cherniack, A. D., El Alam, R., Kerfoot, J., Andrews, E., Lee, A., Nambiar, et al
2024
- **Proteomics-Based Discovery of First-in-Class Chemical Probes for Programmed Cell Death Protein 2 (PDCD2).** *Angewandte Chemie (International ed. in English)*

- Ji, W., Byun, W. S., Lu, W., Zhu, X., Donovan, K. A., Dwyer, B., Che, J., Yuan, L., Abulaiti, X., Corsello, S. M., Fischer, E. S., Zhang, T., Gray, et al
2023; e202308292
- **Structure-Based Design of Y-Shaped Covalent TEAD Inhibitors.** *Journal of medicinal chemistry*
Lu, W., Fan, M., Ji, W., Tse, J., You, I., Ficarro, S. B., Tavares, I., Che, J., Kim, A. Y., Zhu, X., Boghossian, A., Rees, M. G., Ronan, et al
2023
 - **Programmatic Precision Oncology Decision Support for Patients With Gastrointestinal Cancer.** *JCO precision oncology*
Keller, R. B., Mazor, T., Sholl, L., Aguirre, A. J., Singh, H., Sethi, N., Bass, A., Nagaraja, A. K., Brais, L. K., Hill, E., Hennessey, C., Cusick, M., Del Vecchio Fitz, et al
2023; 7: e2200342
 - **RNF43 G659fs is an oncogenic and immune- modulating colorectal cancer mutation and sensitizes tumor cells to PI3K/mTOR inhibition.**
Giannakis, M., Fang, L., Ford-Roshon, D., Russo, M., O'Brien, C., Xiong, X., Gurjao, C., Grandclaudon, M., Raghavan, S., Corsello, S. M., Carr, S. A., Udeshi, N., Berstler, et al
AMER ASSOC CANCER RESEARCH.2022
 - **Virtual screening for small-molecule pathway regulators by image-profile matching.** *Cell systems*
Rohban, M. H., Fuller, A. M., Tan, C., Goldstein, J. T., Syangtan, D., Gutnick, A., DeVine, A., Nijssure, M. P., Rigby, M., Sacher, J. R., Corsello, S. M., Pepler, G. B., Bogaczynska, et al
2022
 - **Discovery of potent and selective CSNK1A1 inhibitors for solid tumor therapy**
Corsello, S. M., Zhang, H., Rupaimoole, R., Schulze, V. K., Lemos, C., Handing, K. B., Orsi, D. L., Shekhar, M., Sack, U., Christian, S., Bone, W., Humeidi, R., Colgan, et al
AMER ASSOC CANCER RESEARCH.2022
 - **RNF43 G659fs is an oncogenic colorectal cancer mutation and sensitizes tumor cells to PI3K/mTOR inhibition.** *Nature communications*
Fang, L., Ford-Roshon, D., Russo, M., O'Brien, C., Xiong, X., Gurjao, C., Grandclaudon, M., Raghavan, S., Corsello, S. M., Carr, S. A., Udeshi, N. D., Berstler, J., Sicinska, et al
2022; 13 (1): 3181
 - **Copper induces cell death by targeting lipoylated TCA cycle proteins.** *Science (New York, N.Y.)*
Tsvetkov, P., Coy, S., Petrova, B., Dreishpoon, M., Verma, A., Abdusamad, M., Rossen, J., Joesch-Cohen, L., Humeidi, R., Spangler, R. D., Eaton, J. K., Frenkel, E., Kocak, et al
2022; 375 (6586): 1254-1261
 - **RNF43 G659fs is an oncogenic mutation in colorectal cancer and sensitizes tumor cells to PI3K/mTOR inhibition.**
Fang, L., Ford-Roshon, D., Russo, M., O'Brien, C., Gurjao, C., Grandclaudon, M., Corsello, S. M., Raghavan, S., Udeshi, N., Berstler, J., Sicinska, E., Ng, K., Giannakis, et al
AMER ASSOC CANCER RESEARCH.2021
 - **Adenosine receptor antagonists exhibit potent and selective off-target killing of FOXA1-high cancers**
Corsello, S. M., Spangler, R. D., Humeidi, R., Harrington, C. N., Nagari, R. T., Singh, R., Wang, V., Kocak, M., Rossen, J., Madec, A., Dumont, N., Golub, T. R.
AMER ASSOC CANCER RESEARCH.2020
 - **The CDK inhibitor CR8 acts as a molecular glue degrader that depletes cyclin K** *NATURE*
Slabicki, M., Kozicka, Z., Petzold, G., Li, Y., Manojkumar, M., Bunker, R. D., Donovan, K. A., Sievers, Q. L., Koeppel, J., Suchyta, D., Sperling, A. S., Fink, E. C., Gasser, et al
2020; 585 (7824): 293-+
 - **Discovering the anticancer potential of non-oncology drugs by systematic viability profiling** *NATURE CANCER*
Corsello, S. M., Nagari, R. T., Spangler, R. D., Rossen, J., Kocak, M., Bryan, J. G., Humeidi, R., Peck, D., Wu, X., Tang, A. A., Wang, V. M., Bender, S. A., Lemire, et al
2020; 1 (2): 235-+
 - **Intrinsic Resistance to Immune Checkpoint Blockade in a Mismatch Repair-Deficient Colorectal Cancer** *CANCER IMMUNOLOGY RESEARCH*
Gurjao, C., Liu, D., Hofree, M., AlDubayan, S. H., Wakiro, I., Su, M., Felt, K., Gjini, E., Brais, L. K., Rotem, A., Rosenthal, M. H., Rozenblatt-Rosen, O., Rodig, et al
2019; 7 (8): 1230-1236

- **Novel cell line barcoding method reveals tepoxalin as a selective drug against MDRI-high tumor cells**
Corsello, S. M., Spangler, R. D., Nagari, R. T., Kocak, M., Rossen, J., O'Hearn, P., Roth, J., Gonzalez, A., Dumont, N., Doench, J., Boehm, J. S., Vazquez, F., Tsherniak, et al
AMER ASSOC CANCER RESEARCH.2019
- **Characterization of intratumoral heterogeneity in drug sensitivity and modeling of drug combination effects using subclonal cell populations derived from a single breast cancer cell line**
Kuiken, H. J., Friend, C. M., Corsello, S. M., Mader, C. C., Brugge, J. S.
AMER ASSOC CANCER RESEARCH.2019
- **Structure of Casein Kinase 1A as a Tool in Rational Drug Design.**
Handing, K., Corsello, S. M., Stefan, E., Castan, I., Nagari, R., Gelles-Watnick, S., Gale, J., Kaushik, V., Hilgraf, R., Mulrooney, C., Emmith, K., Lemke, C., Garvie, et al
WILEY.2018: 199-200
- **A Next Generation Connectivity Map: L1000 Platform and the First 1,000,000 Profiles** *CELL*
Subramanian, A., Narayan, R., Corsello, S. M., Peck, D. D., Natoli, T. E., Lu, X., Gould, J., Davis, J. F., Tubelli, A. A., Asiedu, J. K., Lahr, D. L., Hirschman, J. E., Liu, et al
2017; 171 (6): 1437-+
- **Assigning clinical meaning to somatic and germ-line whole-exome sequencing data in a prospective cancer precision medicine study** *GENETICS IN MEDICINE*
Ghazani, A. A., Oliver, N. M., Pierre, J., Garofalo, A., Rainville, I. R., Hiller, E., Treacy, D. J., Rojas-Rudilla, V., Wood, S., Bair, E., Parello, M., Huang, F., Giannakis, et al
2017; 19 (7): 787-795
- **The Drug Repurposing Hub: a next-generation drug library and information resource** *NATURE MEDICINE*
Corsello, S. M., Bittker, J. A., Liu, Z., Gould, J., McCarran, P., Hirschman, J. E., Johnston, S. E., Vrcic, A., Wong, B., Khan, M., Asiedu, J., Narayan, R., Mader, et al
2017; 23 (4): 405-+
- **Systematic Functional Interrogation of Rare Cancer Variants Identifies Oncogenic Alleles** *CANCER DISCOVERY*
Kim, E., Ilic, N., Shrestha, Y., Zou, L., Kamburov, A., Zhu, C., Yang, X., Lubonja, R., Tran, N., Nguyen, C., Lawrence, M. S., Piccioni, F., Bagul, et al
2016; 6 (7): 714-726
- **Reference pharmacologic class analysis for Connectivity Map discovery**
Corsello, S. M., Narayan, R., Gould, J., Natoli, T. E., Lu, X., Subramanian, A., Golub, T. R.
AMER ASSOC CANCER RESEARCH.2015
- **A Functional Landscape of Resistance to ALK Inhibition in Lung Cancer** *CANCER CELL*
Wilson, F. H., Johannessen, C. M., Piccioni, F., Tamayo, P., Kim, J., Van Allen, E. M., Corsello, S. M., Capelletti, M., Calles, A., Butaney, M., Sharifnia, T., Gabriel, S. B., Mesirov, et al
2015; 27 (3): 397-408
- **Identification of AML1-ETO modulators by chemical genomics** *BLOOD*
Corsello, S. M., Roti, G., Ross, K. N., Chow, K. T., Galinsky, I., DeAngelo, D. J., Stone, R. M., Kung, A. L., Golub, T. R., Stegmaier, K.
2009; 113 (24): 6193-6205
- **Does androgen deprivation therapy in men with prostate cancer increase cardiovascular morbidity?** *NATURE CLINICAL PRACTICE UROLOGY*
Corsello, S. M., Kantoff, P. W.
2008; 5 (2): 80-81
- **Gefitinib induces myeloid differentiation of acute myeloid leukemia** *BLOOD*
Stegmaier, K., Corsello, S. M., Ross, K. N., Wong, J. S., DeAngelo, D. J., Golub, T. R.
2005; 106 (8): 2841-2848