



David Solow-Cordero

Director, HTBC, Chemical and Systems Biology Operations

 NIH Biosketch available Online

 Curriculum Vitae available Online

Bio

CURRENT ROLE AT STANFORD

Director, High-Throughput Bioscience Center

The High-Throughput Bioscience Center's mission is to provide researchers at Stanford with the ability to run high-throughput chemical, siRNA, cDNA, and high-content screens for the purpose of drug and/or target discovery. The HTBC is a Stanford University School of Medicine core facility and was created in 2003 by the Department of Chemical and Systems Biology (formerly Molecular Pharmacology). The HTBC is a shared resource (Bioscience Screening Facility) for the Stanford Cancer Institute.

This high-throughput screening (HTS) laboratory allows Stanford researchers and others to discover novel modulators of targets that otherwise would not be practical in industry. The center incorporates instrumentation (purchased with NCRR NIH Instrumentation grant numbers S10RR019513, S10RR026338, S10OD025004, and S10OD026899), databases, compound libraries, and personnel whose previous sole domains were in industry.

Among our instrumentation are a fully automated Molecular Devices ImageXpress Micro Confocal High-Content fluorescence microplate imager, with live cell, fluidics and phase contrast options, a Union Biometrica Biosorter large object sorter, a Caliper Life Sciences SciClone ALH3000 and an Agilent Bravo microplate liquid handler, and the Tecan Infinite M1000 and M1000 PRO and Molecular Devices Analyst GT and FlexStation II 384 fluorescence, luminescence and absorbance multimode microplate readers.

We have over 130,000 small molecules for compound screens, 15,000 cDNAs for genomic screens, and whole genome siRNA libraries targeting the human genome (the siARRAY whole human genome siRNA library from Dharmacon, targeting 21,000 human genes) and the mouse genome (Qiagen mouse whole genome siRNA set V1 against 22,124 genes).

The HTBC is located in CCSR Room 0133-North Wing, between the Transgenic Mouse Facility, and the Stanford Functional Genomics Facility.

INSTITUTE AFFILIATIONS

- Member, Stanford Cancer Institute

HONORS AND AWARDS

- University Fellowship, University of California at Berkeley (1991-1992)
- National Hispanic Scholar, MIT (1986-1987)

EDUCATION AND CERTIFICATIONS

- PhD, University of California, Berkeley , Molecular and Cellular Biology (1995)
- BS, MIT , Applied Biology (1990)

LINKS

- High-Throughput Bioscience Center: <http://htbc.stanford.edu>

Professional

PROFESSIONAL INTERESTS

High-Throughput Screening of small molecule drug libraries and whole genome human and mouse siRNA libraries.

PROFESSIONAL AFFILIATIONS AND ACTIVITIES

- Member, Cancer Institute (2008 - present)

Publications

PUBLICATIONS

- **Casein kinase 2 inhibition sensitizes medulloblastoma to temozolomide.** *Oncogene*
Nitta, R. T., Bolin, S. n., Luo, E. n., Solow-Cordero, D. E., Samghabadi, P. n., Purzner, T. n., Aujla, P. S., Nwagbo, G. n., Cho, Y. J., Li, G. n.
2019
- **Correction: Casein kinase 2 inhibition sensitizes medulloblastoma to temozolomide.** *Oncogene*
Nitta, R. T., Bolin, S. n., Luo, E. n., Solow-Cordero, D. E., Samghabadi, P. n., Purzner, T. n., Aujla, P. S., Nwagbo, G. n., Cho, Y. J., Li, G. n.
2019
- **A high-throughput system to identify inhibitors of *Candidatus Liberibacter asiaticus* transcription regulators.** *Proceedings of the National Academy of Sciences of the United States of America*
Barnett, M. J., Solow-Cordero, D. E., Long, S. R.
2019
- **Fragile Histidine Triad (FHIT), a Novel Modifier Gene in Pulmonary Arterial Hypertension.** *American journal of respiratory and critical care medicine*
Dannewitz Prosseda, S., Tian, X., Kuramoto, K., Boehm, M., Sudheendra, D., Miyagawa, K., Zhang, F., Solow-Cordero, D., Saldivar, J. C., Austin, E. D., Loyd, J. E., Wheeler, L., Andruska, et al
2018
- **A Human Genome-wide RNAi Screen Reveals Diverse Modulators that Mediate IRE1 β -XBP1 Activation.** *Molecular cancer research : MCR*
Yang, Z. n., Zhang, J. n., Jiang, D. n., Khatri, P. n., Solow-Cordero, D. E., Toesca, D. A., Koumenis, C. n., Denko, N. C., Giaccia, A. J., Le, Q. T., Koong, A. C.
2018
- **Dynamin impacts homology-directed repair and breast cancer response to chemotherapy.** *The Journal of clinical investigation*
Chernikova, S. B., Nguyen, R. B., Truong, J. T., Mello, S. S., Stafford, J. H., Hay, M. P., Olson, A. n., Solow-Cordero, D. E., Wood, D. J., Henry, S. n., von Eyben, R. n., Deng, L. n., Gephart, et al
2018
- **High-Throughput Screening of *Entamoeba* Identifies Compounds Which Target Both Life Cycle Stages and Which Are Effective Against Metronidazole Resistant Parasites.** *Frontiers in cellular and infection microbiology*
Ehrenkauffer, G. M., Suresh, S. n., Solow-Cordero, D. n., Singh, U. n.
2018; 8: 276
- **Screening of NCI-DTP library to identify new drug candidates for *Borrelia burgdorferi*.** *journal of antibiotics*
Pothineni, V. R., Wagh, D., Babar, M. M., Inayathullah, M., Watts, R. E., Kim, K., Parekh, M. B., Gurjarpadhye, A. A., Solow-Cordero, D., Tayebi, L., Rajadas, J.
2017; 70 (3): 308-312
- **Acridine Derivatives as Inhibitors of the IRE1 α -XBP1 Pathway Are Cytotoxic to Human Multiple Myeloma.** *Molecular cancer therapeutics*

- Jiang, D., Tam, A. B., Alagappan, M., Hay, M. P., Gupta, A., Kozak, M. M., Solow-Cordero, D. E., Lum, P. Y., Denko, N. C., Giaccia, A. J., Le, Q., Niwa, M., Koong, et al
2016; 15 (9): 2055-2065
- **Small molecule screen for inhibitors of expression from canonical CREB response element-containing promoters.** *Oncotarget*
Mitton, B., Hsu, K., Dutta, R., Tiu, B. C., Cox, N., McLure, K. G., Chae, H., Smith, M., Eklund, E. A., Solow-Cordero, D. E., Sakamoto, K. M.
2016; 7 (8): 8653-8662
 - **Identification of new drug candidates against *Borrelia burgdorferi* using high-throughput screening** *DRUG DESIGN DEVELOPMENT AND THERAPY*
Pothineni, V. R., Wagh, D., Babar, M. M., Inayathullah, M., Solow-Cordero, D., Kim, K., Samineni, A. V., Parekh, M. B., Tayebi, L., Rajadas, J.
2016; 10: 1307-1322
 - **A small-molecule antivirulence agent for treating *Clostridium difficile* infection.** *Science translational medicine*
Bender, K. O., Garland, M., Ferreyra, J. A., Hryckowian, A. J., Child, M. A., Puri, A. W., Solow-Cordero, D. E., Higginbottom, S. K., Segal, E., Banaei, N., Shen, A., Sonnenburg, J. L., Bogyo, et al
2015; 7 (306): 306ra148-?
 - **Therapeutic targeting of BRCA1-mutated breast cancers with agents that activate DNA repair.** *Cancer research*
Alli, E., Solow-Cordero, D., Casey, S. C., Ford, J. M.
2014; 74 (21): 6205-6215
 - **Next-Generation NAMPT Inhibitors Identified by Sequential High-Throughput Phenotypic Chemical and Functional Genomic Screens.** *Chemistry & biology*
Matheny, C. J., Wei, M. C., Bassik, M. C., Donnelly, A. J., Kampmann, M., Iwasaki, M., Piloto, O., Solow-Cordero, D. E., Bouley, D. M., Rau, R., Brown, P., McManus, M. T., Weissman, et al
2013; 20 (11): 1352-1363
 - **A c-Myc Activation Sensor-Based High-Throughput Drug Screening Identifies an Antineoplastic Effect of Nitazoxanide.** *Molecular cancer therapeutics*
Fan-Minogue, H., Bodapati, S., Solow-Cordero, D., Fan, A., Paulmurugan, R., Massoud, T. F., Felsher, D. W., Gambhir, S. S.
2013; 12 (9): 1896-1905
 - **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., Haghghat, R., Chan, R., Haghghat, L., de Jesus Perez, V., Wang, et al
2013; 123 (8): 3600-3613
 - **Design and synthesis of procollagen C-proteinase inhibitors** *BIOORGANIC & MEDICINAL CHEMISTRY LETTERS*
Turtle, E., Chow, N., Yang, C., Sosa, S., Bauer, U., Brenner, M., Solow-Cordero, D., Ho, W.
2012; 22 (24): 7397-7401
 - **Discovery and validation of small-molecule heat-shock protein 90 inhibitors through multimodality molecular imaging in living subjects** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Chan, C. T., Reeves, R. E., Geller, R., Yaghoubi, S. S., Hoehne, A., Solow-Cordero, D. E., Chiosis, G., Massoud, T. F., Paulmurugan, R., Gambhir, S. S.
2012; 109 (37): E2476-E2485
 - **Targeting GLUT1 and the Warburg Effect in Renal Cell Carcinoma by Chemical Synthetic Lethality** *SCIENCE TRANSLATIONAL MEDICINE*
Chan, D. A., Sutphin, P. D., Nguyen, P., Turcotte, S., Lai, E. W., Banh, A., Reynolds, G. E., Chi, J., Wu, J., Solow-Cordero, D. E., Bonnet, M., Flanagan, J. U., Bouley, et al
2011; 3 (94)
 - **Identification of an Ire1alpha endonuclease specific inhibitor with cytotoxic activity against human multiple myeloma** *BLOOD*
Papandreou, I., Denko, N. C., Olson, M., Van Melckebeke, H., Lust, S., Tam, A., Solow-Cordero, D. E., Bouley, D. M., Offner, F., Niwa, M., Koong, A. C.
2011; 117 (4): 1311-1314
 - **Small-molecule inhibitors reveal multiple strategies for Hedgehog pathway blockade** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Hyman, J. M., Firestone, A. J., Heine, V. M., Zhao, Y., Ocasio, C. A., Han, K., Sun, M., Rack, P. G., Sinha, S., Wu, J. J., Solow-Cordero, D. E., Jiang, J., Rowitch, et al
2009; 106 (33): 14132-14137
 - **A Genome-wide siRNA Screen Reveals Diverse Cellular Processes and Pathways that Mediate Genome Stability** *MOLECULAR CELL*

Paulsen, R. D., Soni, D. V., Wollman, R., Hahn, A. T., Yee, M., Guan, A., Hesley, J. A., Miller, S. C., Cromwell, E. F., Solow-Cordero, D. E., Meyer, T., Cimprich, K. A.

2009; 35 (2): 228-239

● **Molecular Imaging of Phosphorylation Events for Drug Development** *MOLECULAR IMAGING AND BIOLOGY*

CHAN, C. T., Paulmurugan, R., Reeves, R. E., Solow-Cordero, D., Gambhir, S. S.

2009; 11 (3): 144-158

● **Transforming growth factor-beta regulation of bone morphogenetic protein-1 procollagen C-proteinase and related proteins in fibrogenic cells and keratinocytes** *JOURNAL OF BIOLOGICAL CHEMISTRY*

Lee, S. B., SOLOWCORDERO, D. E., Kessler, E., TAKAHARA, K., Greenspan, D. S.

1997; 272 (30): 19059-19066

● **RNA CLEAVAGE AND CHAIN ELONGATION BY ESCHERICHIA-COLI DNA-DEPENDENT RNA-POLYMERASE IN A BINARY ENZYME RNA COMPLEX** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*

Altmann, C. R., SOLOWCORDERO, D. E., Chamberlin, M. J.

1994; 91 (9): 3784-3788

● **A C-TERMINAL DELETION IN CORYNEBACTERIUM-GLUTAMICUM HOMOSERINE DEHYDROGENASE ABOLISHES ALLOSTERIC INHIBITION BY L-THREONINE** *GENE*

Archer, J. A., SOLOWCORDERO, D. E., Sinskey, A. J.

1991; 107 (1): 53-59