



David Solow-Cordero

Associate Director, High-Throughput Screening, Innovative Medicines Accelerator (IMA)

 NIH Biosketch available Online

 Curriculum Vitae available Online

Bio

CURRENT ROLE AT STANFORD

Associate Director, High-Throughput Screening Knowledge Center, , Sarafan ChEM-H and Innovative Medicine Accelerator (IMA)

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, an Echo 655 Acoustic Dispense, a Thermo integrated HTS robotic system, a Caliper Life Sciences SciClone ALH3000 and an Agilent Bravo microplate liquid handler, and the BMG Clariostarplus, Tecan Infinite M1000 and M1000 PRO and Molecular Devices FlexStation II 384 fluorescence, luminescence and absorbance multimode microplate readers.

We have over 180,000 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 HTSKC main screening lab is located in ChEM-H W008, the cell-based assay development lab is located in CCSR Room 0133-North Wing, between the Transgenic Mouse Facility, and the Stanford 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 Screening Knowledge Center: <http://htskc.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

- **Repurposing mebendazole against triple-negative breast cancer CNS metastasis.** *Journal of neuro-oncology*
Rodrigues, A. J., Chernikova, S. B., Wang, Y., Trinh, T. T., Solow-Cordero, D. E., Alexandrova, L., Casey, K. M., Alli, E., Aggarwal, A., Quill, T., Koegel, A. K., Feldman, B. J., Ford, et al
2024
- **Anticancer pan-ErbB inhibitors reduce inflammation and tissue injury and exert broad-spectrum antiviral effects.** *The Journal of clinical investigation*
Saul, S., Karim, M., Ghita, L., Huang, P. T., Chiu, W., Durán, V., Lo, C. W., Kumar, S., Bhalla, N., Leyssen, P., Alem, F., Boghdeh, N. A., Tran, et al
2023
- **Maprotiline restores ER homeostasis and rescues neurodegeneration via Histamine Receptor H1 inhibition in retinal ganglion cells.** *Nature communications*
Chen, W., Liu, P., Liu, D., Huang, H., Feng, X., Fang, F., Li, L., Wu, J., Liu, L., Solow-Cordero, D. E., Hu, Y.
2022; 13 (1): 6796
- **Targeting RTN4/NoGo-Receptor reduces levels of ALS protein ataxin-2.** *Cell reports*
Rodriguez, C. M., Bechek, S. C., Jones, G. L., Nakayama, L., Akiyama, T., Kim, G., Solow-Cordero, D. E., Strittmatter, S. M., Gitler, A. D.
2022; 41 (4): 111505
- **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
- **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*
Ehrenkauf, G. M., Suresh, S., Solow-Cordero, D., Singh, U.
2018; 8: 276
- **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
- **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 IRE1a-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., Sinsky, A. J.
1991; 107 (1): 53-59