Reference Publications

Overview

Levitation Technology™, which is based on foundational work done by Stanford and Harvard Universities, can be applied across diverse research areas. Please find some of our most recent and interesting peer-reviewed publications describing the technology's use for a variety of key applications.

2024

Antigen presentation plays positive roles in the regenerative response to cardiac injury in zebrafish
Cardeira-da-Silva J, Wang Q, Sagvekar P, Mintcheva J, Latting S, Gunther S, Ramadass R, Yeketchyk M, Preussner J, Looso M, Junker J, Stainier D
Nature Communications. 2024 April 29;15:3637. doi.org/10.1038/s41467-024047430-1

Intervertebral disc cells from human back pain subjects exhibit TNFR1-mediated senescence and lack TNFR2-modulated repair capacity
Gansau J, Grossi E, Rodriguez L, Wang M, Laudier DM, Chaudhary S, Hecht AC, Fu W, Sebra R, Liu C, Iatridis JC,
bioRxiv. 2024.02.22.581620. doi.org/10.1101/2024.02.22.581620

Altered microbial bile acid metabolism exacerbates T cell-driven inflammation during graft-versus-host disease
Lindner S, Miltiadous O, Ramos RJF, Paredes J, Kousa AI, Dai A, Fei T, Lauder E, Frame J, Waters NR, Sadeghi K, Armijo GK, Ghale R, Victor K, Gipson B, Monette S, Russo MV, Nguyen CL, Slingerland J, Taur Y, Markey KA, Andrlova H, Giralt S, Perales MA, Reddy P, Peled JU, Smith M, Cross JR, Burgos da Silva M, Campbell C, van den Brink MRM.
Nat Microbiol. 2024 Mar;9(3):614-630. doi.org/10.1038/s41564-024-01617-w

Border-zone cardiomyocytes and macrophages contribute to remodeling of the extracellular matrix to promote cardiomyocyte invasion during zebrafish cardiac regeneration
Constanty F, Wu B, Wei KH, Lin IT, Dallmann J, Guenther S, Lautenschlaeger T, Priya R, Lai SL, Stainier DYR, Beisaw A.
bioRxiv. 2024 Mar 13:2024.03.12.584570. doi.org/10.1101/2024.03.12.584570

The chromatin landscape of healthy and injured cell types in the human kidney
Gisch DL, Brennan M, Lake BB, Basta J, Keller M, Ferreira RM, Akilesh S, Ghag R, Lu C, Cheng YH, Collins KS, Parikh SV, Rovin BH, Robbins L, Conklin KY, Diep D, Zhang B, Knoten A, Barwinska D, Asghari M, Sabo AR, Ferkowicz MJ, Sutton TA, Kelly KJ, Boer IH, Rosas SE, Kiryluk K, Hodgin JB, Alakwaa F, Jefferson N, Gaut JP, Gehlenborg N, Phillips CL, El-Achkar TM, Dagher PC, Hato T, Zhang K, Himmelfarb J, Kretzler M, Mollah S; Kidney Precision Medicine Project (KPMP); Jain S, Rauchman M, Eadon MT.
Nat Commun. 2024 Jan 10;15(1):433. doi.org/10.1038/s41467-023-44467-6

2023

Circulating tumor cells in cancer diagnostics and prognostics by single-molecule and single-cell characterization
Chowdhury T, Cressiot B, Parisi C, Smolyakov G, Thiébot B, Trichet L, Fernandes FM, Pelta J, Manivet P. .
ACS Sens. 2023 Feb 24;8(2):406-426. doi.org/10.1021/acssensors.2c02308

Leptomeningeal anti-tumor immunity follows unique signaling principles
Remsik J, Tong X, Kunes RZ, Li MJ, Osman A, Chabot K, Sener UT, Wilcox JA, Isakov D, Snyder J, Bale TA, Chaligné R, Pe'er D, Boire A.
bioRxiv. 2023 Mar 20:2023.03.17.533041. doi.org/10.1101/2023.03.17.533041

Venetoclax and dinaciclib elicit synergistic preclinical efficacy against hypodiploid acute lymphoblastic leukemia
Pariury H, Fandel J, Bachl S, Ang KK, Markossian S, Wilson CG, Braun BS, Popescu B, Wohlfeil M, Beckman K, Xirenayi S, Roy RP, Olshen AB, Smith C, Arkin MR, Loh ML, Diaz-Flores E.
Haematologica. 2023 May 1;108(5):1272-1283. doi.org/10.3324/haematol.2022.281443

Cancer-related protein profile of patient-derived and commercial glioblastoma cell lines exposed to Temozolomide
Anna Maria Bielecka-Wajdman, Grzegorz Machnik,Michael Linnebacher, Christina Linnebacher, C., & Ewa Obuchowicz
Research Square [Preprint}. 2023 April 10. doi.org/10.21203/rs.3.rs-2782714/v1

2020

Levitating cells to sort the fit and the fat
Nazan Puluca, Naside Gözde Durmus, Soah Lee, Nadjet Belbachir, Francisco X. Galdos, Mehmet Giray Ogut, Rakhi Gupta, Ken-ichi Hirano, Markus Krane, Rüdiger Lange, Joseph C. Wu, Sean M. Wu, Utkan Demirci
Advanced Biosystems. 2020 April 30; 4(6): 1900300. doi/10.1002/adbi.201900300

2016

Integrating cell phone imaging with magnetic levitation (i-LEV) for label-free blood analysis at the point-of-living
Baday M, Calamak S, Durmus NG, Davis RW, Steinmetz LM, Demirci U.
Small. 2016 Mar 2;12(9):1222-1229. doi: 10.1002/smll.201501845. doi.org/10.1002/smll.201501845

2015

Levitational image cytometry with temporal resolution
Tasoglu S, Khoory JA, Tekin HC, Thomas C, Karnoub AE, Ghiran IC, Demirci U.
Adv Mater. 2015 Jul 8;27(26):3901-8. doi: 10.1002/adma.201405660. doi.org/10.1002/adma.201405660

Magnetic levitation of single cells
Durmus NG, Tekin HC, Guven S, Sridhar K, Arslan Yildiz A, Calibasi G, Ghiran I, Davis RW, Steinmetz LM, Demirci U.
Proc Natl Acad Sci U S A. 2015 Jul 14;112(28):E3661-8. doi: 10.1073/pnas.1509250112. doi.org/10.1073/pnas.1509250112