Stanford



Garry Nolan

Rachford and Carlota Harris Professor

Pathology - Nolan

NIH Biosketch available Online Curriculum Vitae available Online Resume available Online

CONTACT INFORMATION

- **Administrative Contact**

  Dyan J. Dalton - Principal Executive Assistant

  Email dydalton@stanford.edu

Bio

BIO

Dr. Nolan is the Rachford and Carlota A. Harris Professor in the Department of Pathology at Stanford University School of Medicine. He trained with Leonard Herzenberg (for his Ph.D.) and Nobelist Dr. David Baltimore (for postdoctoral work for the first cloning/characterization of NF-κB p65/ RelA and the development of rapid retroviral production systems). He has published over 350 research articles and is the holder of 50 US patents, and has been honored as one of the top 25 inventors at Stanford University.

Dr. Nolan is the first recipient of the Teal Innovator Award (2012) from the Department of Defense (a $3.3 million grant for advanced studies in ovarian cancer), the first recipient of an FDA BAAA, for “Bio-agent protection” grant, $3million, from the FDA for a “Cross-Species Immune System Reference”, and received the award for “Outstanding Research Achievement in 2011” from the Nature Publishing Group for his development of CyTOF applications in the immune system. Dr. Nolan has new efforts in the study of Ebola, having developed instrument platforms to deploy in the field in Africa to study Ebola samples safely with the need to transport them to overseas labs (funded by a new $3.5 million grant from the FDA) and another grant to study the effects of Zika and Ebola viruses on humans (also from the FDA).

Dr. Nolan is an outspoken proponent of translating public investment in basic research to serve the public welfare. Dr. Nolan was the founder of Rigel Inc. (NASDAQ: RIGL), and Nodality, Inc. (a diagnostics development company), BINA (a genomics computational infrastructure company sold to Roche Diagnostics), Founder of Apprise (sold to Roche Sequencing Solutions), co-Founder of Ionpath, co-Founder of Akoya, and serves on the Boards of Directors of several companies as well as consults for other biotechnology companies. DVS Sciences, on which he was Chair of the Scientific Advisory Board, recently sold to Fluidigm for $207 million dollars (2014) on an investment of $14 million. Dr. Nolan is a member of the Parker Institute for Cancer Immunotherapy at Stanford.

His areas of research include hematopoiesis, cancer and leukemia, autoimmunity and inflammation, and computational approaches for network and systems immunology. Dr. Nolan’s recent efforts are focused on a single cell analysis advance using a mass spectrometry-flow cytometry hybrid device, the so- call “CyTOF” and the “Multiparameter Ion Beam Imager” (MIBI) developed by Dr. Mike Angelo in his lab (Dr. Angelo is now an Assistant Professor in the Dept of Pathology at Stanford). The approaches use an advanced ion plasma source to determine the levels of tagged reagents bound to cells—enabling a vast increase in the number of parameters that can be measured per cell—either as flow cytometry devices (CyTOF) or imaging

platforms for cancer (MIBI). Further efforts with another imaging platform termed CODEX (Akoya, Inc.) that inexpensively converts fluorescence scopes to high dimensional imaging platforms.

Dr. Nolan's efforts are to enable a deeper understanding not only of normal immune function, trauma, pathogen infection, and other inflammatory events but also detailed substructures of leukemias and solid cancers and their interactions with the immune system—which will enable wholly new understandings that will enable better management of disease and clinical outcomes.

ACADEMIC APPOINTMENTS

- Professor, Pathology - Nolan
- Member, Bio-X
- Member, Wu Tsai Human Performance Alliance
- Member, Maternal & Child Health Research Institute (MCHRI)
- Member, Stanford Cancer Institute

ADMINISTRATIVE APPOINTMENTS

- Director, Stanford NHLBI Proteomics Center, National Heart, Lung, and Blood Institute of the NIH, (2010-2015)
- Board of External Experts, National Heart, Lung, and Blood Institute of the NIH, (2007- present)
- NCI-Frederick Advisory Committee, NCI, (2011-2015)

HONORS AND AWARDS

- Lifetime Achievement Award, Stanford University (2024)
- Keio University Medical Science Prize, Keio University (2022)
- M.D. Anderson Award, M.D. Anderson (2022)
- Hans Sigrist Prize, University of Bern (2021)
- Laboratory Hematology Award, International Society (2021)
- Academy of Clinical Laboratory Physicians & Scientists, Cotlove Award (2015)
- Elected as a Fellow of the American Institute for Medical and Biological Engineering, American Institute (2014 - 2015)
- Teal Innovator Award, Department of Defense (2012-2017)
- Outstanding Research Achievement, for Mass Cytometry and CyTOF, Nature Publishing Group (2011)
- Stohlman Scholar, Leukemia and Lymphoma Society (2000)
- Howard Hughes Medical Institute Junior Faculty Scholar Award, Stanford University (1997 - 1998)
- Scholar of the Leukemia Society, Leukemia and Lymphoma Society (1996-2000)
- Burrough's Wellcome Investigator's Award In Pharmacology, Burroughs Wellcome (1995-2000)
- Board of Trustees, , Leukemia Society of America, Northern California (1995 - 1998)
- Hume Faculty Scholar, Hume Faculty (1993 - 1998)
- Fellowship, National Institutes of Health (1990 - 1992)
- Organization and Function of the Eukaryotic Genome. Spetsai, Greece., National Science Foundation Fellowship (1988)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- NCI-Frederick Advisory Committee., Frederick (2020 - present)
- National Heart, Lung, and Blood Institute Board of External Experts., NIH (2016 - present)
- Co-Chair, trans-NIH Roadmap Initiative on Cellular Signatures, NIH (2017 - present)

PROFESSIONAL EDUCATION

- Postdoctoral Fellowship, MIT, David Baltimore Laboratory , Biochemistry (1993)
- Ph.D., Stanford University , Genetics (1989)
- B.S., Cornell University , Genetics (1983)

PATENTS

- Garry Nolan. "United States Patent 1,166,795,6. Methods of identifying multiple epitopes in cells.", Jun 6, 2023
- Garry Nolan. "United States Patent 1,163,475,2. Kit for split-pool barcoding target molecules that are in or on cells or cell organelles.", Apr 25, 2023
- Garry Nolan. "United States Patent 1,163,475,2. Kit for split-pool barcoding target molecules that are in or on cells or cell organelles.", Apr 25, 2023
- Garry Nolan. "United States Patent 1,163,475,3 On-slide staining by primer extension.", Apr 25, 2023
- Garry Nolan. "United States Patent 1,156,627,8. Methods of identifying multiple epitopes in cells.", Jan 31, 2023
- Garry Nolan. "United States Patent 1,156,058,5. Methods of identifying multiple epitopes in cells.", Jan 24, 2023
- Garry Nolan. "United States Patent 1,129,977,0 On-slide staining by primer extension.", Apr 12, 2022
- Garry Nolan. "United States Patent 1,121,479,4. Increasing dynamic range for identifying multiple epitopes in cells.", Jan 4, 2022
- Garry Nolan. "United States Patent 1,116,835,0 Highly multiplexed fluorescent imaging.", Nov 9, 2021
- Garry Nolan. "United States Patent 1,100,860,8 Multiplexed single molecule RNA visualization with a two-probe proximity ligation system", May 18, 2021
- Garry Nolan. "United States Patent 1,0995,362 Methods of identifying multiple epitopes in cells.", May 4, 2021
- Garry Nolan. "United States Patent 1,098,226,3 On-slide staining by primer extension.", Apr 20, 2021
- Garry Nolan. "United States Patent 1,083,279,5. Compressed sensing for simultaneous measurement of multiple di#erent biological molecule types in a sample", Nov 10, 2020
- Garry Nolan. "United States Patent 1,068,968,7. Detection of target nucleic acids in a cellular sample", Jun 23, 2020
- Garry Nolan. "United States Patent 1,037,069,8. Highly-multiplexed fluorescent imaging.", Aug 6, 2019
- Garry Nolan. "United States Patent 1,028,980,2. Spanning-tree progression analysis of density-normalized events", May 14, 2019
- Garry Nolan. "United States Patent 1,0267,802 Methods of prognosis and diagnosis of ovarian cancer.", Apr 23, 2019
- Garry Nolan. "United States Patent 1,011,400,4. Single cell analysis using secondary ion mass spectrometry.", Oct 30, 2018
- Garry Nolan. "United States Patent 1,004,194,9. Multiplexed imaging of tissues using mass tags and secondary ion mass spectrometry.", Aug 7, 2018
- Garry Nolan. "United States Patent 1,001,780,8. On-slide staining by primer extension.", Jul 10, 2018
- Garry Nolan. "United States Patent 1,000,6082. On-slide straining by primer extension.", Jun 26, 2018
- Garry Nolan. "United States Patent 1,000,079,6 On-slide staining by primer extension.", Jun 19, 2018
- Garry Nolan. "United States Patent 9,909,167 On-slide staining by primer extension.", Mar 6, 2018
- Garry Nolan. "United States Patent 9,783,841 Detection of target nucleic acids in a cellular sample.", Oct 10, 2017
- Garry Nolan. "United States Patent 9,766,224. Single cell analysis using secondary ion mass spectrometry.", Sep 19, 2017
- Garry Nolan. "United States Patent 9,739,765. Metal-based covalent viability reagent for single cell analysis", Aug 22, 2017
- Garry Nolan. "United States Patent 9,312,111. Apparatus and method for sub-micrometer elemental image analysis by mass spectrometry", Apr 12, 2016
- Garry Nolan. "United States Patent 8,945,846 Mutations in the LNK gene in patients with myeloproliferative neoplasms and other hematolymphoid malignancies.", Feb 3, 2015
- Garry Nolan. "United States Patent 8,778,620 Methods for diagnosis, prognosis and methods of treatment.", Jul 15, 2014
- Garry Nolan. "United States Patent 9,500,655 Methods for diagnosis, prognosis and methods of treatment.", May 16, 2014
- Garry Nolan. "United States Patent 1,017,4310 Increasing dynamic range for identifying multiple epitopes in cells.", Aug 8, 2013

- Garry Nolan. "United States Patent 8,227,202 Methods for diagnosis, prognosis and methods of treatment", Jul 24, 2012
- Garry Nolan. "United States Patent 7,939,278 Methods and compositions for risk stratification.", May 10, 2011
- Garry Nolan. "United States Patent 7,695,924 Methods and compositions for detecting receptor-ligand interactions in single cells", Apr 13, 2010
- Garry Nolan. "United States Patent 7,695,926 Methods and compositions for detecting receptor-ligand interactions in single cells.", Apr 13, 2010
- Garry Nolan. "United States Patent 8,309,306 Detection composition", Nov 12, 2009
- Garry Nolan. "United States Patent 7,563,584 Methods and compositions for detecting the activation state of multiple proteins in single cells", Jul 21, 2009
- Garry Nolan. "United States Patent 7,393,656 Methods and compositions for risk stratification.", Jul 1, 2008
- Garry Nolan. "United States Patent 7,381,535 Methods and compositions for detecting receptor-ligand interactions in single cells", Jun 3, 2008
- Garry Nolan. "United States Patent 7,332,356 Fluorescent dye binding peptides", Feb 19, 2008
- Garry Nolan. "United States Patent 8,003,312 Multiplex cellular assays using detectable cell barcodes.", Feb 14, 2008
- Garry Nolan. "United States Patent 6,969,584 Combinatorial enzymatic complexes. Garry P. Nolan and Payan; Donald", Nov 29, 2005
- Garry Nolan. "United States Patent 6,833,245 Methods for screening for transdominant e#ector peptides and RNA molecules", Dec 21, 2004
- Garry Nolan. "United States Patent 6,747,135 Peptide and RNA A#nity-based Fluorophores.", Jun 8, 2004
- Garry Nolan. "United States Patent 6,737,241 Methods for screening for transdominant intracellular e#ector peptides and RNA molecules", May 18, 2004
- Garry Nolan. "United States Patent 6,727,350 Toso, a cell-surface regulator of Fas-induced apoptosis.", Apr 27, 2004
- Garry Nolan. "United States Patent 6,455,247 Methods for screening for transdominant e#ector peptides and RNA molecules.", Sep 24, 2002
- Garry Nolan. "United States Patent 6,365,344 Methods for screening for transdominant e#ector peptides and RNA molecules.", Apr 2, 2002
- Garry Nolan. "United States Patent 6,153,380 Methods for screening for transdominant intracellular e#ector peptides and RNA molecules", Nov 28, 2000
- Garry Nolan. "United States Patent 5,830,725 Rapid, stable high-titer production of recombinant retrovirus", Nov 3, 1998
- Garry Nolan. "United States Patent 5,070,012 Monitoring of cells and trans-activating transcription elements.", Dec 3, 1991

LINKS

- Nolan Lab: https://web.stanford.edu/group/nolan/
- ORCID: https://orcid.org/0000-0002-8862-9043

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

Our areas of expertise include signal transduction, immunology, cancer biology, pathogen infection, auto-immunity, retroviral design, bioinformatics and genetics. Our laboratory's recent interests include studying signaling alterations at the single cell level in leukemia and lymphomas, cancer stem cells, and determining which of these signaling attributes correlate with patient outcome, drug reactivity and mechanism of disease progressions.

His areas of research include hematopoiesis, cancer and leukemia, autoimmunity and inflammation, and computational approaches for network and systems immunology. Dr. Nolan’s recent efforts are focused on a single cell analysis advance using a mass spectrometry-flow cytometry hybrid device, the so- call “CyTOF” and the “Multiparameter Ion Beam Imager” (MIBI) developed by Dr. Mike Angelo in his lab (Dr. Angelo is now an Assistant Professor in the Dept of Pathology at Stanford). The approaches uses an advanced ion plasma source to determine the levels of tagged reagents bound to cells—enabling a vast increase in the number of parameters that can be measured per cell—either as flow cytometry devices (CyTOF) or imaging platforms for cancer (MIBI). Further efforts are being develop with another imaging platform terms CODEX that inexpensively converts fluorescence scopes to high dimensional imaging platforms.

The lab puts substantial effort into bioinformatics approaches to mine the datasets we collect and to automate the production of network models of the signaling pathways affected. For this, we have collaborations with statisticians, engineering departments, and computer design specialists to extend our efforts to make the program in the laboratory extremely cross-disciplinary.

Dr. Nolan has published over 300 papers, most in top tier journals, has over 40 issued patents, has been cited as one of the top inventors at Stanford, and has a strong record of translating technology and inventions for the public good. Dr. Nolan is the first recipient of the Teal Innovator Award (2012) from the Department of Defense (a $3.3 million grant for advanced studies in ovarian cancer), the first recipient of an FDA BAAA, for “Bio-agent protection” grant, $3million, from the FDA for a “Cross-Species Immune System Reference”, a recent grant for Ebola studies in Africa (FDA BAAA for $3.5 million) and received the award for “Outstanding Research Achievement in 2011” from the Nature Publishing Group for his development of CyTOF applications in the immune system. As noted, Dr. Nolan has new efforts in the study of Ebola, having developed instrument platforms to deploy in the field in Africa to study Ebola samples safely with the need to transport them to overseas labs (funded by a new $3.5 million grant from the FDA).

CLINICAL TRIALS

- MEK Inhibitor MEK162, Idarubicin, and Cytarabine in Treating Patients With Relapsed or Refractory Acute Myeloid Leukemia, Not Recruiting
- T-cell And General Immune Response to Seasonal Influenza Vaccine (SLVP018) - Year 1, 2009, Not Recruiting
- T-cell And General Immune Response to Seasonal Influenza Vaccine (SLVP018) Year 2, 2010, Not Recruiting
- T-cell And General Immune Response to Seasonal Influenza Vaccine (SLVP018) Year 3, 2011, Not Recruiting
- T-cell And General Immune Response to Seasonal Influenza Vaccine (SLVP018) Year 4, 2012, Not Recruiting
- T-cell And General Immune Response to Seasonal Influenza Vaccine (SLVP018) Year 5, 2013, Not Recruiting

Teaching

STANFORD ADVISEES

Postdoctoral Faculty Sponsor

Elizabeth Holman

Doctoral Dissertation Advisor (AC)

Timothy Keyes

Postdoctoral Research Mentor

Elizabeth Holman

GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Biomedical Data Science (Masters Program)
- Biomedical Data Science (PhD Program)
- Cancer Biology (PhD Program)
- Immunology (PhD Program)
- Microbiology and Immunology (PhD Program)

Publications

PUBLICATIONS

- **T cell-mediated curation and restructuring of tumor tissue coordinates an effective immune response.** *Cell reports*
  Hickey, J. W., Haist, M., Horowitz, N., Caraccio, C., Tan, Y., Rech, A. J., Baertsch, M. A., Rovira-Clavé, X., Zhu, B., Vazquez, G., Barlow, G., Agmon, E., Goltsev, et al

2023; 42 (12): 113494

- **Integrating Multiplexed Imaging and Multiscale Modeling Identifies Tumor Phenotype Transformation as a Critical Component of Therapeutic T Cell Efficacy.** *bioRxiv : the preprint server for biology*
  Hickey, J. W., Agmon, E., Horowitz, N., Lamore, M., Sunwoo, J., Covert, M., Nolan, G. P.
  2023
- **BCG vaccination stimulates integrated organ immunity by feedback of the adaptive immune response to imprint prolonged innate antiviral resistance.** *Nature immunology*
  Lee, A., Floyd, K., Wu, S., Fang, Z., Tan, T. K., Froggatt, H. M., Powers, J. M., Leist, S. R., Gully, K. L., Hubbard, M. L., Li, C., Hui, H., Scoville, et al
  2023
- **Integration of spatial and single-cell data across modalities with weakly linked features.** *Nature biotechnology*
  Chen, S., Zhu, B., Huang, S., Hickey, J. W., Lin, K. Z., Snyder, M., Greenleaf, W. J., Nolan, G. P., Zhang, N. R., Ma, Z.
  2023
- **CODEX multiplexed tissue imaging** *NATURE REVIEWS IMMUNOLOGY*
  Goltsev, Y., Nolan, G.
  2023
- **CODEX multiplexed tissue imaging.** *Nature reviews. Immunology*
  Goltsev, Y., Nolan, G.
  2023
- **Longitudinal clinical phenotyping of post COVID condition in Mexican adults recovering from severe COVID-19: a prospective cohort study.** *Frontiers in medicine*
  Núñez, I., Gillard, J., Fragoso-Saavedra, S., Feyaerts, D., Islas-Weinstein, L., Gallegos-Guzmán, A. A., Valente-García, U., Meyerowitz, J., Kelly, J. D., Chen, H., Ganio, E., Benkendorff, A., Flores-Gouyonnet, et al
  2023; 10: 1236702
- **An atlas of healthy and injured cell states and niches in the human kidney** *NATURE*
  Lake, B. B., Menon, R., Winfree, S., Hu, Q., Ferreira, R., Kalhor, K., Barwinska, D., Otto, E. A., Ferkowicz, M., Diep, D., Plongthongkum, N., Knoten, A., Urata, et al
  2023; 619 (7970): 585-+
- **Organ Mapping Antibody Panels: a community resource for standardized multiplexed tissue imaging.** *Nature methods*
  Quardokus, E. M., Saunders, D. C., McDonough, E., Hickey, J. W., Werlein, C., Surrette, C., Rajbhandari, P., Casals, A. M., Tian, H., Lowery, L., Neumann, E. K., Björklund, F., Neelakantan, et al
  2023
- **Advances and prospects for the Human BioMolecular Atlas Program (HuBMAP).** *Nature cell biology*
  Jain, S., Pei, L., Spraggins, J. M., Angelo, M., Carson, J. P., Gehlenborg, N., Ginty, F., Gonçalves, J. P., Hagood, J. S., Hickey, J. W., Kelleher, N. L., Laurent, L. C., Lin, et al
  2023
- **Expanded vacuum-stable gels for multiplexed high-resolution spatial histopathology.** *Nature communications*
  Bai, Y., Zhu, B., Oliveria, J., Cannon, B. J., Feyaerts, D., Bosse, M., Vijayaragavan, K., Greenwald, N. F., Phillips, D., Schurch, C. M., Naik, S. M., Ganio, E. A., Gaudilliere, et al
  2023; 14 (1): 4013
- **Organization of the human intestine at single-cell resolution.** *Nature*
  Hickey, J. W., Becker, W. R., Nevins, S. A., Horning, A., Perez, A. E., Zhu, C., Zhu, B., Wei, B., Chiu, R., Chen, D. C., Cotter, D. L., Esplin, E. D., Weimer, et al
  2023; 619 (7970): 572-584
- **MAPS: Pathologist-level cell type annotation from tissue images through machine learning.** *bioRxiv : the preprint server for biology*
  Shaban, M., Bai, Y., Qiu, H., Mao, S., Yeung, J., Yeo, Y. Y., Shanmugam, V., Chen, H., Zhu, B., Nolan, G. P., Shipp, M. A., Rodig, S. J., Jiang, et al
  2023
- **Dasatinib overcomes glucocorticoid resistance in B-cell acute lymphoblastic leukemia.** *Nature communications*
  Sarno, J., Domizi, P., Liu, Y., Merchant, M., Pedersen, C. B., Jedoui, D., Jager, A., Nolan, G. P., Gaipa, G., Bendall, S. C., Bava, F., Davis, K. L.

2023; 14 (1): 2935

- **Physioxia improves the selectivity of hematopoietic stem cell expansion cultures.** *Blood advances*
  Igarashi, K. J., Kucinski, I., Chan, Y. Y., Tan, T., Khoo, H. M., Kealy, D., Bhadury, J., Hsu, I., Ho, P. Y., Niizuma, K., Hickey, J. W., Nolan, G., Bridge, et al
  2023
- **A tissue atlas of ulcerative colitis revealing evidence of sex-dependent differences in disease-driving inflammatory cell types and resistance to TNF inhibitor therapy** *SCIENCE ADVANCES*
  Mayer, A. T., Holman, D. R., Sood, A., Tandon, U., Bhate, S. S., Bodapati, S., Barlow, G. L., Chang, J., Black, S., Crenshaw, E. C., Koron, A. N., Streett, S. E., Gambhir, et al
  2023; 9 (3)
- **A tissue atlas of ulcerative colitis revealing evidence of sex-dependent differences in disease-driving inflammatory cell types and resistance to TNF inhibitor therapy.** *Science advances*
  Mayer, A. T., Holman, D. R., Sood, A., Tandon, U., Bhate, S. S., Bodapati, S., Barlow, G. L., Chang, J., Black, S., Crenshaw, E. C., Koron, A. N., Streett, S. E., Gambhir, et al
  2023; 9 (3): eadd1166
- **A spatial map of human macrophage niches reveals context-dependent macrophage functions in colon and breast cancer.** *Research square*
  Matusiak, M., Hickey, J. W., Luca, B., Lu, G., Kidziński, L., Zhu, S., Colburg, D. R., Phillips, D. J., Brubaker, S. W., Charville, G. W., Shen, J., Nolan, G. P., Newman, et al
  2023
- **Robust single-cell matching and multimodal analysis using shared and distinct features.** *Nature methods*
  Zhu, B., Chen, S., Bai, Y., Chen, H., Liao, G., Mukherjee, N., Vazquez, G., McIlwain, D. R., Tzankov, A., Lee, I. T., Matter, M. S., Goltsev, Y., Ma, et al
  2023
- **Glucose dissociates DDX21 dimers to regulate mRNA splicing and tissue differentiation.** *Cell*
  Miao, W., Porter, D. F., Lopez-Pajares, V., Siprashvili, Z., Meyers, R. M., Bai, Y., Nguyen, D. T., Ko, L. A., Zarnegar, B. J., Ferguson, I. D., Mills, M. M., Jilly-Rehak, C. E., Wu, et al
  2023; 186 (1): 80
- **tidytof: a user-friendly framework for scalable and reproducible high-dimensional cytometry data analysis.** *Bioinformatics advances*
  Keyes, T. J., Koladiya, A., Lo, Y., Nolan, G. P., Davis, K. L.
  2023; 3 (1): vbad071
- **SARS-CoV-2 replication in airway epithelia requires motile cilia and microvillar reprogramming.** *Cell*
  Wu, C., Lidsky, P. V., Xiao, Y., Cheng, R., Lee, I. T., Nakayama, T., Jiang, S., He, W., Demeter, J., Knight, M. G., Turn, R. E., Rojas-Hernandez, L. S., Ye, et al
  2022
- **Highly multiplexed spatial profiling with CODEX: bioinformatic analysis and application in human disease.** *Seminars in immunopathology*
  Kuswanto, W., Nolan, G., Lu, G.
  2022
- **Improved Relapse Prediction in Pediatric Acute Myeloid Leukemia By Deconvolving Lineage-Specific and CancerSpecific Features in Single-Cell Data**
  Keyes, T., Jager, A., Krueger, M., Plevritis, S., Tibshirani, R., Aplenc, R., Nolan, G. P., Redell, M. S., Davis, K. L.
  AMER SOC HEMATOLOGY.2022: 6288-6289
- **Annotation of spatially resolved single-cell data with STELLAR.** *Nature methods*
  Brbic, M., Cao, K., Hickey, J. W., Tan, Y., Snyder, M. P., Nolan, G. P., Leskovec, J.
  2022
- **Predictive models demonstrate age-dependent association of subcortical volumes and cognitive measures.** *Human brain mapping*
  Weerasekera, A., Ion-Margineanu, A., Green, C., Mody, M., Nolan, G. P.
  2022
- **Spatial epitope barcoding reveals clonal tumor patch behaviors.** *Cancer cell*

Rovira-Clave, X., Drainas, A. P., Jiang, S., Bai, Y., Baron, M., Zhu, B., Dallas, A. E., Lee, M. C., Chu, T. P., Holzem, A., Ayyagari, R., Bhattacharya, D., McCaffrey, et al
2022

- **SARS-CoV-2 infection drives an inflammatory response in human adipose tissue through infection of adipocytes and macrophages.** *Science translational medicine*
  Martínez-Colón, G. J., Ratnasiri, K., Chen, H., Jiang, S., Zanley, E., Rustagi, A., Verma, R., Chen, H., Andrews, J. R., Mertz, K. D., Tzankov, A., Azagury, D., Boyd, et al
  2022: eabm9151

- **Immunotherapy of glioblastoma explants induces interferon-gamma responses and spatial immune cell rearrangements in tumor center, but not periphery.** *Science advances*
  Shekarian, T., Zinner, C. P., Bartoszek, E. M., Duchemin, W., Wachnowicz, A. T., Hogan, S., Etter, M. M., Flammer, J., Paganetti, C., Martins, T. A., Schmassmann, P., Zanganeh, S., Le Goff, et al
  2022; 8 (26): eabn9440

- **Integrated plasma proteomic and single-cell immune signaling network signatures demarcate mild, moderate, and severe COVID-19.** *Cell reports. Medicine*
  Feyaerts, D., Hédou, J., Gillard, J., Chen, H., Tsai, E. S., Peterson, L. S., Ando, K., Manohar, M., Do, E., Dhondalay, G. K., Fitzpatrick, J., Artandi, M., Chang, et al
  2022: 100680

- **Identification of cell types in multiplexed in situ images by combining protein expression and spatial information using CELESTA.** *Nature methods*
  Zhang, W., Li, I., Reticker-Flynn, N. E., Good, Z., Chang, S., Samusik, N., Saumyaa, S., Li, Y., Zhou, X., Liang, R., Kong, C. S., Le, Q., Gentles, et al
  2022

- **New views of old proteins: clarifying the enigmatic proteome.** *Molecular & cellular proteomics : MCP*
  Burnum-Johnson, K. E., Conrads, T. P., Drake, R. R., Herr, A. E., Iyengar, R., Kelly, R. T., Lundberg, E., MacCoss, M. J., Naba, A., Nolan, G. P., Pevzner, P. A., Rodland, K. D., Sechi, et al
  2022: 100254

- **Postmitotic G1 phase survivin drives mitogen-independent cell division of B lymphocytes.** *Proceedings of the National Academy of Sciences of the United States of America*
  Singh, A., Spitzer, M. H., Joy, J. P., Kaileh, M., Qiu, X., Nolan, G. P., Sen, R.
  2022; 119 (18): e2115567119

- **Aldehyde dehydrogenase 3A1 deficiency leads to mitochondrial dysfunction and impacts salivary gland stem cell phenotype.** *PNAS nexus*
  Viswanathan, V., Cao, H., Saiki, J., Jiang, D., Mattingly, A., Nambiar, D., Bloomstein, J., Li, Y., Jiang, S., Chamoli, M., Sirjani, D., Kaplan, M., Holsinger, et al
  2022; 1 (2): pgac056

- **Combined protein and nucleic acid imaging reveals virus-dependent B cell and macrophage immunosuppression of tissue microenvironments.** *Immunity*
  Jiang, S., Chan, C. N., Rovira-Clave, X., Chen, H., Bai, Y., Zhu, B., McCaffrey, E., Greenwald, N. F., Liu, C., Barlow, G. L., Weirather, J. L., Oliveria, J. P., Nakayama, et al
  2022

- **Subcortical Brain Morphometry Differences between Adults with Autism Spectrum Disorder and Schizophrenia.** *Brain sciences*
  Weerasekera, A., Ion-Margineanu, A., Nolan, G., Mody, M.
  2022; 12 (4)

- **MITI minimum information guidelines for highly multiplexed tissue images.** *Nature methods*
  Schapiro, D., Yapp, C., Sokolov, A., Reynolds, S. M., Chen, Y., Sudar, D., Xie, Y., Muhlich, J., Arias-Camison, R., Arena, S., Taylor, A. J., Nikolov, M., Tyler, et al
  2022; 19 (3): 262-267

- **A Comprehensive Atlas of Immunological Differences Between Humans, Mice, and Non-Human Primates.** *Frontiers in immunology*
  Bjornson-Hooper, Z. B., Fragiadakis, G. K., Spitzer, M. H., Chen, H., Madhireddy, D., Hu, K., Lundsten, K., McIlwain, D. R., Nolan, G. P.
  2022; 13: 867015

- **Variation of Immune Cell Responses in Humans Reveals Sex-Specific Coordinated Signaling Across Cell Types.** *Frontiers in immunology*

Fragiadakis, G. K., Bjornson-Hooper, Z. B., Madhireddy, D., Sachs, K., Chen, H., McIlwain, D. R., Spitzer, M. H., Bendall, S. C., Nolan, G. P.
2022; 13: 867016

- **A real-time GPU-accelerated parallelized image processor for large-scale multiplexed fluorescence microscopy data.** *Frontiers in immunology*
  Lu, G., Baertsch, M. A., Hickey, J. W., Goltsev, Y., Rech, A. J., Mani, L., Forgo, E., Kong, C., Jiang, S., Nolan, G. P., Rosenthal, E. L.
  2022; 13: 981825

- **METABOLIC PROFILING OF MOUSE HEMATOPOIETIC STEM CELL SELF-RENEWAL AT SINGLE-CELL RESOLUTION**
  Tan, A., Hartmann, F., Wilkinson, A., Nakauchi, H., Nolan, G.
  ELSEVIER SCIENCE INC.2022: S145

- **Improved instrumental techniques, including isotopic analysis, applicable to the characterization of unusual materials with potential relevance to aerospace forensics** *PROGRESS IN AEROSPACE SCIENCES*
  Nolan, G. P., Vallee, J. F., Jiang, S., Lemke, L. G.
  2022; 128

- **CellSeg: a robust, pre-trained nucleus segmentation and pixel quantification software for highly multiplexed fluorescence images.** *BMC bioinformatics*
  Lee, M. Y., Bedia, J. S., Bhate, S. S., Barlow, G. L., Phillips, D., Fantl, W. J., Nolan, G. P., Schürch, C. M.
  2022; 23 (1): 46

- **Rhesus Macaque CODEX Multiplexed Immunohistochemistry Panel for Studying Immune Responses During Ebola Infection** *FRONTIERS IN IMMUNOLOGY*
  Jiang, S., Mukherjee, N., Bennett, R. S., Chen, H., Logue, J., Dighero-Kemp, B., Kurtz, J. R., Adams, R., Phillips, D., Schuerch, C. M., Goltsev, Y., Hickey, J. W., McCaffrey, et al
  2021; 12: 729845

- **Multicellular modules as clinical diagnostic and therapeutic targets.** *Trends in cancer*
  Baertsch, M., Nolan, G. P., Hickey, J. W.
  2021

- **Inflammatory molecular endotypes of nasal polyps derived from Caucasian and Japanese populations.** *The Journal of allergy and clinical immunology*
  Nakayama, T., Lee, I. T., Le, W., Tsunemi, Y., Borchard, N. A., Zarabanda, D., Dholakia, S. S., Gall, P. A., Yang, A., Kim, D., Akutsu, M., Kashiwagi, T., Patel, et al
  2021

- **Spatial mapping of protein composition and tissue organization: a primer for multiplexed antibody-based imaging.** *Nature methods*
  Hickey, J. W., Neumann, E. K., Radtke, A. J., Camarillo, J. M., Beuschel, R. T., Albanese, A., McDonough, E., Hatler, J., Wiblin, A. E., Fisher, J., Croteau, J., Small, E. C., Sood, et al
  2021

- **T CELL PHENOTYPE DRIVES RESTRUCTURING OF TUMOR MICROENVIRONMENT TO BALANCE T CELL LONGEVITY AND TUMOR CONTROL: INSIGHTS FROM MULTIPLEXED IMAGING AND MULTI-SCALE AGENT BASED MODELING**
  Hickey, J., Nolan, G., Covert, M., Agmon, E., Horowitz, N., Sunwoo, J.
  BMJ PUBLISHING GROUP.2021: A192

- **Tissue schematics map the specialization of immune tissue motifs and their appropriation by tumors.** *Cell systems*
  Bhate, S. S., Barlow, G. L., Schurch, C. M., Nolan, G. P.
  2021

- **Determinants of SARS-CoV-2 entry and replication in airway mucosal tissue and susceptibility in smokers.** *Cell reports. Medicine*
  Nakayama, T., Lee, I. T., Jiang, S., Matter, M. S., Yan, C. H., Overdevest, J. B., Wu, C., Goltsev, Y., Shih, L., Liao, C., Zhu, B., Bai, Y., Lidsky, et al
  2021: 100421

- **Subcellular localization of biomolecules and drug distribution by high-definition ion beam imaging.** *Nature communications*
  Rovira-Clave, X., Jiang, S., Bai, Y., Zhu, B., Barlow, G., Bhate, S., Coskun, A. F., Han, G., Ho, C. K., Hitzman, C., Chen, S., Bava, F., Nolan, et al
  2021; 12 (1): 4628

- **Virtual and augmented reality for biomedical applications.** *Cell reports. Medicine*

Venkatesan, M., Mohan, H., Ryan, J. R., Schurch, C. M., Nolan, G. P., Frakes, D. H., Coskun, A. F.
2021; 2 (7): 100348

- **CODEX multiplexed tissue imaging with DNA-conjugated antibodies.** *Nature protocols*
  Black, S., Phillips, D., Hickey, J. W., Kennedy-Darling, J., Venkataraaman, V. G., Samusik, N., Goltsev, Y., Schurch, C. M., Nolan, G. P.
  2021
- **Highly Multiplexed Phenotyping of Immunoregulatory Proteins in the Tumor Microenvironment by CODEX Tissue Imaging** *FRONTIERS IN IMMUNOLOGY*
  Phillips, D., Schuerch, C. M., Khodadoust, M. S., Kim, Y. H., Nolan, G. P., Jiang, S.
  2021; 12: 687673
- **SARS-CoV-2 infects human pancreatic beta cells and elicits beta cell impairment.** *Cell metabolism*
  Wu, C., Lidsky, P. V., Xiao, Y., Lee, I. T., Cheng, R., Nakayama, T., Jiang, S., Demeter, J., Bevacqua, R. J., Chang, C. A., Whitener, R. L., Stalder, A. K., Zhu, et al
  2021
- **Large-scale, three-dimensional tissue cytometry of the human kidney: a complete and accessible pipeline.** *Laboratory investigation; a journal of technical methods and pathology*
  Ferkowicz, M. J., Winfree, S., Sabo, A. R., Kamocka, M. M., Khochare, S., Barwinska, D., Eadon, M. T., Cheng, Y. H., Phillips, C. L., Sutton, T. A., Kelly, K. J., Dagher, P. C., El-Achkar, et al
  2021; 101 (5): 661-676
- **Integrated plasma proteomic and single-cell immune signaling network signatures demarcate mild, moderate, and severe COVID-19.** *bioRxiv : the preprint server for biology*
  Feyaerts, D., Hédou, J., Gillard, J., Chen, H., Tsai, E. S., Peterson, L. S., Ando, K., Manohar, M., Do, E., Dhondalay, G. K., Fitzpatrick, J., Artandi, M., Chang, et al
  2021
- **SARS-CoV-2 entry factors are expressed in nasal, ocular, and oral tissues: implications for COVID-19 prophylaxes/therapeutics**
  Lee, I., Nakayama, T., Jiang, S., Goltsev, Y., Schurch, C., Zhu, B., McIlwain, D., Chu, P., Chen, H., Tzankov, A., Matter, M., Nayak, J., Nolan, et al
  MOSBY-ELSEVIER.2021: AB2
- **Correction to: Performance of BioFire array or QuickVue influenza A + B test versus a validation qPCR assay for detection of influenza A during a volunteer A/California/2009/H1N1 challenge study.** *Virology journal*
  McIlwain, D. R., Chen, H. n., Apkarian, M. n., Affrime, M. n., Bock, B. n., Kim, K. n., Mukherjee, N. n., Nolan, G. P., McNeal, M. M.
  2021; 18 (1): 55
- **Immune cell topography predicts response to PD-1 blockade in cutaneous T cell lymphoma.** *Nature communications*
  Phillips, D., Matusiak, M., Gutierrez, B. R., Bhate, S. S., Barlow, G. L., Jiang, S., Demeter, J., Smythe, K. S., Pierce, R. H., Fling, S. P., Ramchurren, N., Cheever, M. A., Goltsev, et al
  2021; 12 (1): 6726
- **Human influenza virus challenge identifies cellular correlates of protection for oral vaccination.** *Cell host & microbe*
  McIlwain, D. R., Chen, H., Rahil, Z., Bidoki, N. H., Jiang, S., Bjornson, Z., Kolhatkar, N. S., Martinez, C. J., Gaudillière, B., Hedou, J., Mukherjee, N., Schürch, C. M., Trejo, et al
  2021
- **Strategies for Accurate Cell Type Identification in CODEX Multiplexed Imaging Data.** *Frontiers in immunology*
  Hickey, J. W., Tan, Y., Nolan, G. P., Goltsev, Y.
  2021; 12: 727626
- **Adjacent Cell Marker Lateral Spillover Compensation and Reinforcement for Multiplexed Images.** *Frontiers in immunology*
  Bai, Y., Zhu, B., Rovira-Clave, X., Chen, H., Markovic, M., Chan, C. N., Su, T., McIlwain, D. R., Estes, J. D., Keren, L., Nolan, G. P., Jiang, S.
  2021; 12: 652631
- **Highly multiplexed tissue imaging using repeated oligonucleotide exchange reaction.** *European journal of immunology*
  Kennedy-Darling, J. n., Bhate, S. S., Hickey, J. W., Black, S. n., Barlow, G. L., Vazquez, G. n., Venkataraaman, V. G., Samusik, N. n., Goltsev, Y. n., Schürch, C. M., Nolan, G. P.
  2021

- **Nanoscopic subcellular imaging enabled by ion beam tomography.** *Nature communications*
  Coskun, A. F., Han, G., Ganesh, S., Chen, S., Clave, X. R., Harmsen, S., Jiang, S., Schurch, C. M., Bai, Y., Hitzman, C., Nolan, G. P.
  2021; 12 (1): 789

- **Performance of BioFire array or QuickVue influenza A+B test versus a validation qPCR assay for detection of influenza A during a volunteer A/California/2009/H1N1 challenge study.** *Virology journal*
  McIlwain, D. R., Chen, H., Apkarian, M., Affrime, M., Bock, B., Kim, K., Mukherjee, N., Nolan, G. P., McNeal, M. M.
  2021; 18 (1): 45

- **Diminished cytokine-induced Jak/STAT signaling is associated with rheumatoid arthritis and disease activity.** *PloS one*
  Ptacek, J. n., Hawtin, R. E., Sun, D. n., Louie, B. n., Evensen, E. n., Mittleman, B. B., Cesano, A. n., Cavet, G. n., Bingham, C. O., Cofield, S. S., Curtis, J. R., Danila, M. I., Raman, et al
  2021; 16 (1): e0244187

- **Frontiers in cancer immunotherapy-a symposium report.** *Annals of the New York Academy of Sciences*
  Cable, J., Greenbaum, B., Pe'er, D., Bollard, C. M., Bruni, S., Griffin, M. E., Allison, J. P., Wu, C. J., Subudhi, S. K., Mardis, E. R., Brentjens, R., Sosman, J. A., Cemerski, et al
  2020

- **Single-Cell Profiling of Ebola Virus Disease InVivo Reveals Viral and Host Dynamics.** *Cell*
  Kotliar, D., Lin, A. E., Logue, J., Hughes, T. K., Khoury, N. M., Raju, S. S., Wadsworth, M. H., Chen, H., Kurtz, J. R., Dighero-Kemp, B., Bjornson, Z. B., Mukherjee, N., Sellers, et al
  2020

- **ACE2 localizes to the respiratory cilia and is not increased by ACE inhibitors or ARBs.** *Nature communications*
  Lee, I. T., Nakayama, T., Wu, C., Goltsev, Y., Jiang, S., Gall, P. A., Liao, C., Shih, L., Schurch, C. M., McIlwain, D. R., Chu, P., Borchard, N. A., Zarabanda, et al
  2020; 11 (1): 5453

- **Integration of mechanistic immunological knowledge into a machine learning pipeline improves predictions** *NATURE MACHINE INTELLIGENCE*
  Culos, A., Tsai, A. S., Stanley, N., Becker, M., Ghaemi, M. S., McIlwain, D. R., Fallahzadeh, R., Tanada, A., Nassar, H., Espinosa, C., Xenochristou, M., Ganio, E., Peterson, et al
  2020

- **Integration of mechanistic immunological knowledge into a machine learning pipeline improves predictions.** *Nature machine intelligence*
  Culos, A., Tsai, A. S., Stanley, N., Becker, M., Ghaemi, M. S., McIlwain, D. R., Fallahzadeh, R., Tanada, A., Nassar, H., Espinosa, C., Xenochristou, M., Ganio, E., Peterson, et al
  2020; 2 (10): 619-628

- **Systems biology for investigating drug resistance mechanism of melanoma**
  Su, Y., Li, G., Ko, M., Cheng, H., Zhu, R., Xue, M., Robert, L., Levine, R., Ribas, A., Nolan, G., Wei, W., Plevritis, S., Baltimore, et al
  AMER ASSOC CANCER RESEARCH.2020

- **Cellular neighborhoods predict pembrolizumab response in cutaneous T cell lymphoma**
  Schurch, C. M., Phillips, D. J., Gutierrez, B., Matusiak, M., Bhate, S. S., Barlow, G. L., Fling, S. P., Ramchurren, N., Pierce, R. H., Cheever, M. A., Khodadoust, M. S., West, R., Kim, et al
  AMER ASSOC CANCER RESEARCH.2020

- **High-grade serous ovarian tumor cells modulate natural killer cells to create an immune-tolerant microenvironment.**
  Gonzalez, V. D., Chen, S., Huang, Y., Delgado, A., Sachs, K., Nolan, G. P., Fantl, W. J.
  AMER ASSOC CANCER RESEARCH.2020: 109

- **Isotopically Encoded Nanotags for Multiplexed Ion Beam Imaging.** *Advanced materials technologies*
  Harmsen, S., Coskun, A. F., Ganesh, S., Nolan, G. P., Gambhir, S. S.
  2020; 5 (7)

- **A Cancer Biologist's Primer on Machine Learning Applications in High-Dimensional Cytometry.** *Cytometry. Part A : the journal of the International Society for Analytical Cytology*
  Keyes, T. J., Domizi, P., Lo, Y., Nolan, G. P., Davis, K. L.
  2020

- **Immunologic timeline of Ebola virus disease and recovery in humans.** *JCI insight*
  McElroy, A. K., Akondy, R. S., McIlwain, D. R., Chen, H., Bjornson-Hooper, Z., Mukherjee, N., Mehta, A. K., Nolan, G., Nichol, S. T., Spiropoulou, C. F.
  2020; 5 (10)

- **Isotopically Encoded Nanotags for Multiplexed Ion Beam Imaging** *ADVANCED MATERIALS TECHNOLOGIES*
  Harmsen, S., Coskun, A. F., Ganesh, S., Nolan, G. P., Gambhir, S. S.
  2020

- **The Human Tumor Atlas Network: Charting Tumor Transitions across Space and Time at Single-Cell Resolution.** *Cell*
  Rozenblatt-Rosen, O., Regev, A., Oberdoerffer, P., Nawy, T., Hupalowska, A., Rood, J. E., Ashenberg, O., Cerami, E., Coffey, R. J., Demir, E., Ding, L., Esplin, E. D., Ford, et al
  2020; 181 (2): 236–49

- **Functional comparison of PBMCs isolated by Cell Preparation Tubes (CPT) vs. Lymphoprep Tubes.** *BMC immunology*
  Chen, H., Schurch, C. M., Noble, K., Kim, K., Krutzik, P. O., O'Donnell, E., Vander Tuig, J., Nolan, G. P., McIlwain, D. R.
  2020; 21 (1): 15

- **Deep profiling of apoptotic pathways with mass cytometry identifies a synergistic drug combination for killing myeloma cells.** *Cell death and differentiation*
  Teh, C. E., Gong, J., Segal, D., Tan, T., Vandenberg, C. J., Fedele, P. L., Low, M. S., Grigoriadis, G., Harrison, S. J., Strasser, A., Roberts, A. W., Huang, D. C., Nolan, et al
  2020

- **Enabling Technologies for Personalized and Precision Medicine.** *Trends in biotechnology*
  Ho, D., Quake, S. R., McCabe, E. R., Chng, W. J., Chow, E. K., Ding, X., Gelb, B. D., Ginsburg, G. S., Hassenstab, J., Ho, C., Mobley, W. C., Nolan, G. P., Rosen, et al
  2020

- **FLOW-MAP: a graph-based, force-directed layout algorithm for trajectory mapping in single-cell time course datasets.** *Nature protocols*
  Ko, M. E., Williams, C. M., Fread, K. I., Goggin, S. M., Rustagi, R. S., Fragiadakis, G. K., Nolan, G. P., Zunder, E. R.
  2020

- **Profiling myelodysplastic syndromes by mass cytometry demonstrates abnormal progenitor cell phenotype and differentiation.** *Cytometry. Part B, Clinical cytometry*
  Behbehani, G. K., Finck, R., Samusik, N., Sridhar, K., Fantl, W. J., Greenberg, P. L., Nolan, G. P.
  2020

- **Author Correction: Ultra-high throughput single-cell analysis of proteins and RNAs by split-pool synthesis.** *Communications biology*
  O'Huallachain, M. n., Bava, F. A., Shen, M. n., Dallett, C. n., Paladugu, S. n., Samusik, N. n., Yu, S. n., Hussein, R. n., Hillman, G. R., Higgins, S. n., Lou, M. n., Trejo, A. n., Qin, et al
  2020; 3 (1): 279

- **Coordinated Cellular Neighborhoods Orchestrate Antitumoral Immunity at the Colorectal Cancer Invasive Front.** *Cell*
  Schürch, C. M., Bhate, S. S., Barlow, G. L., Phillips, D. J., Noti, L. n., Zlobec, I. n., Chu, P. n., Black, S. n., Demeter, J. n., McIlwain, D. R., Samusik, N. n., Goltsev, Y. n., Nolan, et al
  2020

- **Multi-omic single-cell snapshots reveal multiple independent trajectories to drug tolerance in a melanoma cell line.** *Nature communications*
  Su, Y. n., Ko, M. E., Cheng, H. n., Zhu, R. n., Xue, M. n., Wang, J. n., Lee, J. W., Frankiw, L. n., Xu, A. n., Wong, S. n., Robert, L. n., Takata, K. n., Yuan, et al
  2020; 11 (1): 2345

- **Robust ACE2 protein expression localizes to the motile cilia of the respiratory tract epithelia and is not increased by ACE inhibitors or angiotensin receptor blockers.** *medRxiv : the preprint server for health sciences*
  Lee, I. T., Nakayama, T. n., Wu, C. T., Goltsev, Y. n., Jiang, S. n., Gall, P. A., Liao, C. K., Shih, L. C., Schürch, C. M., McIlwain, D. R., Chu, P. n., Borchard, N. A., Zarabanda, et al
  2020

- **Activation of JUN in fibroblasts promotes pro-fibrotic programme and modulates protective immunity.** *Nature communications*
  Cui, L. n., Chen, S. Y., Lerbs, T. n., Lee, J. W., Domizi, P. n., Gordon, S. n., Kim, Y. H., Nolan, G. n., Betancur, P. n., Wernig, G. n.

2020; 11 (1): 2795

- **Landscape of coordinated immune responses to H1N1 challenge in humans.** *The Journal of clinical investigation*
  Rahil, Z. n., Leylek, R. n., Schürch, C. M., Chen, H. n., Bjornson-Hooper, Z. n., Christensen, S. R., Gherardini, P. F., Bhate, S. S., Spitzer, M. H., Fragiadakis, G. K., Mukherjee, N. n., Kim, N. n., Jiang, et al
  2020

- **Ultra-high throughput single-cell analysis of proteins and RNAs by split-pool synthesis.** *Communications biology*
  O'Huallachain, M. n., Bava, F. A., Shen, M. n., Dallett, C. n., Paladugu, S. n., Samusik, N. n., Yu, S. n., Hussein, R. n., Hillman, G. R., Higgins, S. n., Lou, M. n., Trejo, A. n., Qin, et al
  2020; 3 (1): 213

- **Multimodal Analysis of Composition and Spatial Architecture in Human Squamous Cell Carcinoma.** *Cell*
  Ji, A. L., Rubin, A. J., Thrane, K. n., Jiang, S. n., Reynolds, D. L., Meyers, R. M., Guo, M. G., George, B. M., Mollbrink, A. n., Bergenstråhle, J. n., Larsson, L. n., Bai, Y. n., Zhu, et al
  2020

- **TRAIL-induced variation of cell signaling states provides nonheritable resistance to apoptosis.** *Life science alliance*
  Baskar, R., Fienberg, H. G., Khair, Z., Favaro, P., Kimmey, S., Green, D. R., Nolan, G. P., Plevritis, S., Bendall, S. C.
  2019; 2 (6)

- **Sex Differences in the Blood Transcriptome Identify Robust Changes in Immune Cell Proportions with Aging and Influenza Infection.** *Cell reports*
  Bongen, E., Lucian, H., Khatri, A., Fragiadakis, G. K., Bjornson, Z. B., Nolan, G. P., Utz, P. J., Khatri, P.
  2019; 29 (7): 1961

- **Mass spectroscopy-based highly multiplexed super-resolution imaging method for fine details of tumor microenvironment monitoring and tumor-immune cell interactions**
  Bai, Y., Zhu, B., Angelo, M., Zhao, Y., Jiang, S., Clave, X., Nolan, G.
  BMC.2019

- **Microbiome spatial patterns as markers of cancer immune therapy response**
  Zhu, B., Bai, Y., Jiang, S., Rovira-Clave, X., Sonnenburg, J., Nolan, G.
  BMC.2019

- **Multiplexed Imaging for the simultaneous detection of nucleic acids and proteins to dissect the tissue immune landscape and microenvironment of viral diseases**
  Jiang, S., Clave, X., Chan, C., Zhu, B., Bai, Y., Bosse, M., McIlwain, D., Bendall, S., Angelo, M., Estes, J., Nolan, G.
  BMC.2019

- **Mapping the spatial architecture of acute myeloid leukemia in the bone marrow microenvironment by multiplexed ion beam imaging**
  Rovira-Clave, X., Jiang, S., Bai, Y., Zhu, B., Bosse, M., Angelo, M., Banz, Y., Schurch, C., Nolan, G.
  BMC.2019

- **The human body at cellular resolution: the NIH Human Biomolecular Atlas Program** *NATURE*
  Snyder, M. P., Lin, S., Posgai, A., Atkinson, M., Regev, A., Rood, J., Rozenblatt-Rosen, O., Gaffney, L., Hupalowska, A., Satija, R., Gehlenborg, N., Shendure, J., Laskin, et al
  2019; 574 (7777): 187–92

- **MIBI-TOF: A multiplexed imaging platform relates cellular phenotypes and tissue structure.** *Science advances*
  Keren, L., Bosse, M., Thompson, S., Risom, T., Vijayaragavan, K., McCaffrey, E., Marquez, D., Angoshtari, R., Greenwald, N. F., Fienberg, H., Wang, J., Kambham, N., Kirkwood, et al
  2019; 5 (10): eaax5851

- **Role for polo-like kinase 4 in mediation of cytokinesis.** *Proceedings of the National Academy of Sciences of the United States of America*
  Press, M. F., Xie, B., Davenport, S., Zhou, Y., Guzman, R., Nolan, G. P., O'Brien, N., Palazzolo, M., Mak, T. W., Brugge, J. S., Slamon, D. J.
  2019

- **Neurological, Cognitive, and Psychological Findings Among Survivors of Ebola Virus Disease From the 1995 Ebola Outbreak in Kikwit, Democratic Republic of Congo: A Cross-sectional Study** *CLINICAL INFECTIOUS DISEASES*
  Kelly, J., Hoff, N. A., Spencer, D., Musene, K., Bramble, M. S., McIlwain, D., Okitundu, D., Porco, T. C., Rutherford, G. W., Glymour, M., Bjornson, Z., Mukadi, P., Okitolonda-Wemakoy, et al

2019; 68 (8): 1388–93

- **Identification of NK Cell Subpopulations That Differentiate HIV-Infected Subject Cohorts with Diverse Levels of Virus Control** *JOURNAL OF VIROLOGY*
  Pohlmeyer, C. W., Gonzalez, V. D., Irrinki, A., Ramirez, R. N., Li, L., Mulato, A., Murry, J. P., Arvey, A., Hoh, R., Deeks, S. G., Kukolj, G., Cihlar, T., Pflanz, et al
  2019; 93 (7)

- **Proliferation tracing with single-cell mass cytometry optimizes generation of stem cell memory-like T cells** *NATURE BIOTECHNOLOGY*
  Good, Z., Borges, L., Gonzalez, N., Sahaf, B., Samusik, N., Tibshirani, R., Nolan, G. P., Bendall, S. C.
  2019; 37 (3): 259-+

- **A topological view of human CD34(+) cell state trajectories from integrated single-cell output and proteomic data** *BLOOD*
  Knapp, D. F., Hammond, C. A., Wang, F., Aghaeepour, N., Miller, P. H., Beer, P. A., Pellacani, D., VanInsberghe, M., Hansen, C., Bendall, S. C., Nolan, G. P., Eaves, C. J.
  2019; 133 (9): 927–39

- **Proliferation tracing with single-cell mass cytometry optimizes generation of stem cell memory-like T cells.** *Nature biotechnology*
  Good, Z., Borges, L., Vivanco Gonzalez, N., Sahaf, B., Samusik, N., Tibshirani, R., Nolan, G. P., Bendall, S. C.
  2019

- **Multiplexed profiling of RNA and protein expression signatures in individual cells using flow or mass cytometry.** *Nature protocols*
  Duckworth, A. D., Gherardini, P. F., Sykorova, M., Yasin, F., Nolan, G. P., Slupsky, J. R., Kalakonda, N.
  2019

- **Identification of NK cell subpopulations that differentiate HIV-infected subject cohorts with diverse level of virus control.** *Journal of virology*
  Pohlmeyer, C. W., Gonzalez, V. D., Irrinki, A., Ramirez, R. N., Li, L., Mulato, A., Murry, J. P., Arvey, A., Hoh, R., Deeks, S. G., Kukolj, G., Cihlar, T., Pflanz, et al
  2019

- **A topological view of human CD34+ cell state trajectories from integrated single-cell output and proteomic data.** *Blood*
  Knapp, D. J., Hammond, C. A., Wang, F., Aghaeepour, N., Miller, P. H., Beer, P. A., Pellacani, D., VanInsberghe, M., Hansen, C., Bendall, S. C., Nolan, G. P., Eaves, C. J.
  2019

- **Scalable Conjugation and Characterization of Immunoglobulins with Stable Mass Isotope Reporters for Single-Cell Mass Cytometry Analysis.** *Methods in molecular biology (Clifton, N.J.)*
  Hartmann, F. J., Simonds, E. F., Vivanco, N. n., Bruce, T. n., Borges, L. n., Nolan, G. P., Spitzer, M. H., Bendall, S. C.
  2019; 1989: 55–81

- **Denisovan, modern human and mouse TNFAIP3 alleles tune A20 phosphorylation and immunity.** *Nature immunology*
  Zammit, N. W., Siggs, O. M., Gray, P. E., Horikawa, K. n., Langley, D. B., Walters, S. N., Daley, S. R., Loetsch, C. n., Warren, J. n., Yap, J. Y., Cultrone, D. n., Russell, A. n., Malle, et al
  2019; 20 (10): 1299–1310

- **Cellular Signaling Analysis shows antiviral, ribavirin-mediated ribosomal signaling modulation.** *Antiviral research*
  Ding, X. n., Krutzik, P. O., Ghaffari, A. A., Zhaozhi, Y. n., Miranda, D. n., Cheng, G. n., Ho, C. M., Nolan, G. P., Sanchez, D. J.
  2019: 104598

- **Scalable Conjugation and Characterization of Immunoglobulins with Stable Mass Isotope Reporters for Single-Cell Mass Cytometry Analysis** *MASS CYTOMETRY: METHODS AND PROTOCOLS*
  Hartmann, F. J., Simonds, E. F., Vivanco, N., Bruce, T., Borges, L., Nolan, G. P., Spitzer, M. H., Bendall, S. C.
  edited by McGuire, H. M., Ashhurst, T. M.
  2019; 1989: 55–81

- **Voices in methods development.** *Nature methods*
  Anikeeva, P. n., Boyden, E. n., Brangwynne, C. n., Cissé, I. I., Fiehn, O. n., Fromme, P. n., Gingras, A. C., Greene, C. S., Heard, E. n., Hell, S. W., Hillman, E. n., Jensen, G. J., Karchin, et al
  2019; 16 (10): 945–51

- **Innovative Technologies for Advancement of WHO Risk Group 4 Pathogens Research** *GLOBAL VIROLOGY III: VIROLOGY IN THE 21ST CENTURY*

Logue, J., Solomon, J., Niemeyer, B. F., Benam, K. H., Lin, A. E., Bjornson, Z., Jiang, S., McIlwain, D. R., Nolan, G. P., Palacios, G., Kuhn, J. H.
edited by Shapshak, P., Balaji, S., Kangueane, P., Chiappelli, F., Somboonwit, C., Menezes, L. J., Sinnott, J. T.
2019: 437–69

- **Multiomics modeling of the immunome, transcriptome, microbiome, proteome and metabolome adaptations during human pregnancy** *BIOINFORMATICS*
  Ghaemi, M., DiGiulio, D. B., Contrepois, K., Callahan, B., Ngo, T. T. M., Lee-McMullen, B., Lehallier, B., Robaczewska, A., Mcilwain, D., Rosenberg-Hasson, Y., Wong, R. J., Quaintance, C., Culos, et al
  2019; 35 (1): 95–103

- **Multiomics modeling of the immunome, transcriptome, microbiome, proteome and metabolome adaptations during human pregnancy.** *Bioinformatics (Oxford, England)*
  Ghaemi, M. S., DiGiulio, D. B., Contrepois, K., Callahan, B., Ngo, T. T., Lee-McMullen, B., Lehallier, B., Robaczewska, A., Mcilwain, D., Rosenberg-Hasson, Y., Wong, R. J., Quaintance, C., Culos, et al
  2019; 35 (1): 95–103

- **Defining human cardiac transcription factor hierarchies using integrated single-cell heterogeneity analysis.** *Nature communications*
  Churko, J. M., Garg, P., Treutlein, B., Venkatasubramanian, M., Wu, H., Lee, J., Wessells, Q. N., Chen, S., Chen, W., Chetal, K., Mantalas, G., Neff, N., Jabart, et al
  2018; 9 (1): 4906

- **Metal-isotope-tagged monoclonal antibodies for high-dimensional mass cytometry.** *Nature protocols*
  Han, G., Spitzer, M. H., Bendall, S. C., Fantl, W. J., Nolan, G. P.
  2018

- **Neurological, cognitive, and psychological findings among survivors of Ebola virus disease from the 1995 Ebola outbreak in Kikwit, Democratic Republic of Congo: a cross-sectional study.** *Clinical infectious diseases : an official publication of the Infectious Diseases Society of America*
  Kelly, J. D., Hoff, N. A., Spencer, D., Musene, K., Bramble, M. S., McIlwain, D., Okitundu, D., Porco, T. C., Rutherford, G. W., Glymour, M. M., Bjornson, Z., Mukadi, P., Okitolonda-Wemakoy, et al
  2018

- **Deep Profiling of Mouse Splenic Architecture with CODEX Multiplexed Imaging.** *Cell*
  Goltsev, Y., Samusik, N., Kennedy-Darling, J., Bhate, S., Hale, M., Vazquez, G., Black, S., Nolan, G. P.
  2018

- **MetaCyto: A Tool for Automated Meta-analysis of Mass and Flow Cytometry Data** *CELL REPORTS*
  Hu, Z., Jujjavarapu, C., Hughey, J. J., Andorf, S., Lee, H., Gherardini, P., Spitzer, M. H., Thomas, C. G., Campbell, J., Dunn, P., Wiser, J., Kidd, B. A., Dudley, et al
  2018; 24 (5): 1377–88

- **Three-dimensional intact-tissue sequencing of single-cell transcriptional states** *SCIENCE*
  Wang, X., Allen, W. E., Wright, M. A., Sylwestrak, E. L., Samusik, N., Vesuna, S., Evans, K., Liu, C., Ramakrishnan, C., Liu, J., Nolan, G. P., Bava, F., Deisseroth, et al
  2018; 361 (6400): 380-+

- **Individualized drug combination based on single-cell drug perturbations**
  Anchang, B., Davis, K., Fienberg, H., Bendall, S., Karacosta, L., Nolan, G., Plevritis, S. K.
  AMER ASSOC CANCER RESEARCH.2018

- **Three-dimensional intact-tissue sequencing of single-cell transcriptional states.** *Science (New York, N.Y.)*
  Wang, X., Allen, W. E., Wright, M. A., Sylwestrak, E. L., Samusik, N., Vesuna, S., Evans, K., Liu, C., Ramakrishnan, C., Liu, J., Nolan, G. P., Bava, F., Deisseroth, et al
  2018

- **The Atacama skeleton.** *Genome research*
  Nolan, G., Butte, A.
  2018; 28 (5): 607–8

- **Single-cell developmental classification of B cell precursor acute lymphoblastic leukemia at diagnosis reveals predictors of relapse.** *Nature medicine*

Good, Z., Sarno, J., Jager, A., Samusik, N., Aghaeepour, N., Simonds, E. F., White, L., Lacayo, N. J., Fantl, W. J., Fazio, G., Gaipa, G., Biondi, A., Tibshirani, et al
2018; 24 (4): 474–83

- **SRC/ABL inhibition disrupts CRLF2-driven signaling to induce cell death in B-cell acute lymphoblastic leukemia.** *Oncotarget*
  Sarno, J., Savino, A. M., Buracchi, C., Palmi, C., Pinto, S., Bugarin, C., Jager, A., Bresolin, S., Barber, R. C., Silvestri, D., Israeli, S., Dyer, M. J., Cazzaniga, et al
  2018; 9 (33): 22872–85

- **Single-cell mass cytometry reveals distinct populations of brain myeloid cells in mouse neuroinflammation and neurodegeneration models.** *Nature neuroscience*
  Ajami, B., Samusik, N., Wieghofer, P., Ho, P. P., Crotti, A., Bjornson, Z., Prinz, M., Fantl, W. J., Nolan, G. P., Steinman, L.
  2018; 21 (4): 541–51

- **Whole-genome sequencing of Atacama skeleton shows novel mutations linked with dysplasia** *GENOME RESEARCH*
  Bhattacharya, S., Li, J., Sockell, A., Kan, M. J., Bava, F. A., Chen, S., Avila-Arcos, M. C., Ji, X., Smith, E., Asadi, N. B., Lachman, R. S., Lam, H. Y. K., Bustamante, et al
  2018; 28 (4): 423–31

- **Publisher Correction: High-resolution myogenic lineage mapping by single-cell mass cytometry.** *Nature cell biology*
  Porpiglia, E., Samusik, N., Van Ho, A. T., Cosgrove, B. D., Mai, T., Davis, K. L., Jager, A., Nolan, G. P., Bendall, S. C., Fantl, W. J., Blau, H. M.
  2018

- **50-dimensional microenvironment analysis of human and mouse bone marrow during malignant transformation**
  Schuerch, C. M., Barlow, G. L., Bhate, S. S., Samusik, N., Nolan, G., Goltsev, Y.
  NATURE PUBLISHING GROUP.2018: 550

- **50-dimensional microenvironment analysis of human and mouse bone marrow during malignant transformation**
  Schuerch, C. M., Barlow, G. L., Bhate, S. S., Samusik, N., Nolan, G., Goltsev, Y.
  NATURE PUBLISHING GROUP.2018: 550

- **Commonly Occurring Cell Subsets in High-Grade Serous Ovarian Tumors Identified by Single-Cell Mass Cytometry** *CELL REPORTS*
  Gonzalez, V. D., Samusik, N., Chen, T. J., Savig, E. S., Aghaeepour, N., Quigley, D. A., Huang, Y., Giangarra, V., Borowsky, A. D., Hubbard, N. E., Chen, S., Han, G., Ashworth, et al
  2018; 22 (7): 1875–88

- **DRUG-NEM: Optimizing drug combinations using single-cell perturbation response to account for intratumoral heterogeneity.** *Proceedings of the National Academy of Sciences of the United States of America*
  Anchang, B. n., Davis, K. L., Fienberg, H. G., Williamson, B. D., Bendall, S. C., Karacosta, L. G., Tibshirani, R. n., Nolan, G. P., Plevritis, S. K.
  2018; 115 (18): E4294–E4303

- **Complex mammalian-like haematopoietic system found in a colonial chordate.** *Nature*
  Rosental, B. n., Kowarsky, M. n., Seita, J. n., Corey, D. M., Ishizuka, K. J., Palmeri, K. J., Chen, S. Y., Sinha, R. n., Okamoto, J. n., Mantalas, G. n., Manni, L. n., Raveh, T. n., Clarke, et al
  2018

- **GateFinder: Projection-based Gating Strategy Optimization for Flow and Mass Cytometry.** *Bioinformatics (Oxford, England)*
  Aghaeepour, N. n., Simonds, E. F., Knapp, D. J., Bruggner, R. n., Sachs, K. n., Culos, A. n., Gherardini, P. F., Samusik, N. n., Fragiadakis, G. n., Bendall, S. n., Gaudilliere, B. n., Angst, M. S., Eaves, et al
  2018

- **The Human Cell Atlas** *ELIFE*
  Regev, A., Teichmann, S. A., Lander, E. S., Amt, I., Benoist, C., Birney, E., Bodenmiller, B., Campbell, P., Carninci, P., Clatworthy, M., Clevers, H., Deplancke, B., Dunham, et al
  2017; 6

- **Atomic mass tag of bismuth-209 for increasing the immunoassay multiplexing capacity of mass cytometry** *CYTOMETRY PART A*
  Han, G., Chen, S., Gonzalez, V. D., Zunder, E. R., Fantl, W. J., Nolan, G. P.
  2017; 91A (12): 1150–63

- **SINGLE-CELL MASS CYTOMETRY OF HUMAN GLIOBLASTOMA REVEALS PHENOTYPIC HETEROGENEITY AND DISTINCT CELL CYCLE AND EPIGENETIC STATES AMONG GLIOMA STEM CELLS**

Simonds, E., Cayanan, G., Park, J., Bendall, S., Nolan, G., Weiss, W.
OXFORD UNIV PRESS INC.2017: 230

- **Jak1 Integrates Cytokine Sensing to Regulate Hematopoietic Stem Cell Function and Stress Hematopoiesis** *CELL STEM CELL*
  Kleppe, M., Spitzer, M. H., Li, S., Hill, C. E., Dong, L., Papalexi, E., De Groote, S., Bowman, R. L., Keller, M., Koppikar, P., Rapaport, F. T., Teruya-Feldstein, J., Gandara, et al
  2017; 21 (4): 489-+

- **NKG2D ligand expression in Crohn's disease and NKG2D-dependent stimulation of CD8(+) T cell migration** *EXPERIMENTAL AND MOLECULAR PATHOLOGY*
  Vadstrup, K., Galsgaard, E., Jensen, H., Lanier, L. L., Ryan, J. C., Chen, S., Nolan, G. P., Vester-Andersen, M., Pedersen, J., Gerwien, J., Jensen, T., Bendtsen, F.
  2017; 103 (1): 56–70

- **In silico modeling identifies CD45 as a regulator of IL-2 synergy in the NKG2D-mediated activation of immature human NK cells** *SCIENCE SIGNALING*
  Mukherjee, S., Jensen, H., Stewart, W., Stewart, D., Ray, W. C., Chen, S., Nolan, G. P., Lanier, L. L., Das, J.
  2017; 10 (485)

- **IDENTIFICATION OF SMALL MOLECULE KINASE INHIBITORS WITH SPECIFIC ACTIVITY IN PEDIATRIC GLIOMA**
  Simonds, E., Aghaeepour, N., Cayanan, G., Park, J., Nolan, G., Weiss, W.
  OXFORD UNIV PRESS INC.2017: 27

- **Unifying mechanism for different fibrotic diseases** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
  Wernig, G., Chen, S., Cui, L., Van Neste, C., Tsai, J. M., Kambham, N., Vogel, H., Natkunam, Y., Gilliland, D. G., Nolan, G., Weissman, I. L.
  2017; 114 (18): 4757-4762

- **High-resolution myogenic lineage mapping by single-cell mass cytometry** *NATURE CELL BIOLOGY*
  Porpiglia, E., Samusik, N., Van Ho, A. T., Cosgrove, B. D., Mai, T., Davis, K. L., Jager, A., Nolan, G. P., Bendall, S. C., Fantl, W. J., Blau, H. M.
  2017; 19 (5): 558-?

- **Mass cytometry identifies a distinct monocyte cytokine signature shared by clinically heterogeneous pediatric SLE patients.** *Journal of autoimmunity*
  O'Gorman, W. E., Kong, D. S., Balboni, I. M., Rudra, P., Bolen, C. R., Ghosh, D., DAVIS, M. M., Nolan, G. P., Hsieh, E. W.
  2017

- **Microsphere cytometry to interrogate microenvironment-dependent cell signaling.** *Integrative biology*
  Ertsås, H. C., Nolan, G. P., LaBarge, M. A., Lorens, J. B.
  2017; 9 (2): 123-134

- **EBI3 regulates the NK cell response to mouse cytomegalovirus infection.** *Proceedings of the National Academy of Sciences of the United States of America*
  Jensen, H., Chen, S., Folkersen, L., Nolan, G. P., Lanier, L. L.
  2017; 114 (7): 1625-1630

- **Mass cytometry analysis reveals hyperactive NF Kappa B signaling in myelofibrosis and secondary acute myeloid leukemia.** *Leukemia*
  Fisher, D. A., Malkova, O., Engle, E. K., Miner, C. A., Fulbright, M. C., Behbehani, G. K., COLLINS, T. B., Bandyopadhyay, S., Zhou, A., Nolan, G. P., Oh, S. T.
  2017

- **Expression of specific inflammasome gene modules stratifies older individuals into two extreme clinical and immunological states** *NATURE MEDICINE*
  Furman, D., Chang, J., Lartigue, L., Bolen, C. R., Haddad, F., Gaudilliere, B., Ganio, E. A., Fragiadakis, G. K., Spitzer, M. H., Douchet, I., Daburon, S., Moreau, J., Nolan, et al
  2017; 23 (2): 174-184

- **High-throughput precision measurement of subcellular localization in single cells.** *Cytometry. Part A : the journal of the International Society for Analytical Cytology*
  Burns, T. J., Frei, A. P., Gherardini, P. F., Bava, F. A., Batchelder, J. E., Yoshiyasu, Y., Yu, J. M., Groziak, A. R., Kimmey, S. C., Gonzalez, V. D., Fantl, W. J., Nolan, G. P.

2017; 91 (2): 180-189

- **Systemic Immunity Is Required for Effective Cancer Immunotherapy.** *Cell*
  Spitzer, M. H., Carmi, Y., Reticker-Flynn, N. E., Kwek, S. S., Madhireddy, D., Martins, M. M., Gherardini, P. F., Prestwood, T. R., Chabon, J., Bendall, S. C., Fong, L., Nolan, G. P., Engleman, et al
  2017; 168 (3): 487-502 e15

- **Distinct signaling programs control human hematopoietic stem cell survival and proliferation.** *Blood*
  Knapp, D. J., Hammond, C. A., Aghaeepour, N., Miller, P. H., Pellacani, D., Beer, P. A., Sachs, K., Qiao, W., Wang, W., Humphries, R. K., Sauvageau, G., Zandstra, P. W., Bendall, et al
  2017; 129 (3): 307-318

- **High-throughput precision measurement of subcellular localization in single cells** *CYTOMETRY PART A*
  Burns, T. J., Frei, A. P., Gherardini, P. F., Bava, F. A., Batchelder, J. E., Yoshiyasu, Y., Yu, J. M., Groziak, A. R., Kimmey, S. C., Gonzalez, V. D., Fantl, W. J., Nolan, G. P.
  2017; 91A (2): 180-189

- **Deep Immune Profiling of an Arginine-Enriched Nutritional Intervention in Patients Undergoing Surgery.** *Journal of immunology (Baltimore, Md. : 1950)*
  Aghaeepour, N. n., Kin, C. n., Ganio, E. A., Jensen, K. P., Gaudilliere, D. K., Tingle, M. n., Tsai, A. n., Lancero, H. L., Choisy, B. n., McNeil, L. S., Okada, R. n., Shelton, A. A., Nolan, et al
  2017

- **Mass cytometry: The time to settle down.** *Cytometry A.*
  Cosma, A., Nolan, G. P., Gaudilliere, B.
  2017: 12–13

- **The road ahead: Implementing mass cytometry in clinical studies, one cell at a time.** *Cytometry. Part B, Clinical cytometry*
  Baca, Q., Cosma, A., Nolan, G., Gaudilliere, B.
  2017; 92 (1): 10-11

- **Mass cytometry: The time to settle down.** *Cytometry. Part A : the journal of the International Society for Analytical Cytology*
  Cosma, A., Nolan, G., Gaudilliere, B.
  2017; 91 (1): 12-13

- **The road ahead: Implementing mass cytometry in clinical studies, one cell at a time.** *Cytometry B Clin Cytom.*
  Baca, Q. J., Cosma, A., Nolan, G., Gaudilliere, B.
  2017: 10–11

- **Scalable multi-sample single-cell data analysis by Partition-Assisted Clustering and Multiple Alignments of Networks.** *PLoS computational biology*
  Li, Y. H., Li, D. n., Samusik, N. n., Wang, X. n., Guan, L. n., Nolan, G. P., Wong, W. H.
  2017; 13 (12): e1005875

- **A gut bacterial pathway metabolizes aromatic amino acids into nine circulating metabolites.** *Nature*
  Dodd, D. n., Spitzer, M. H., Van Treuren, W. n., Merrill, B. D., Hryckowian, A. J., Higginbottom, S. K., Le, A. n., Cowan, T. M., Nolan, G. P., Fischbach, M. A., Sonnenburg, J. L.
  2017; 551 (7682): 648–52

- **High-Dimensional Phenotypic Mapping of Human Dendritic Cells Reveals Interindividual Variation and Tissue Specialization.** *Immunity*
  Alcántara-Hernández, M. n., Leylek, R. n., Wagar, L. E., Engleman, E. G., Keler, T. n., Marinkovich, M. P., Davis, M. M., Nolan, G. P., Idoyaga, J. n.
  2017

- **Upregulation of HERV-K is Linked to Immunity and Inflammation in Pulmonary Arterial Hypertension.** *Circulation*
  Saito, T. n., Miyagawa, K. n., Chen, S. Y., Tamosiuniene, R. n., Wang, L. n., Sharp, O. n., Samayoa, E. n., Harada, D. n., Moonen, J. A., Cao, A. n., Chen, P. I., Hennigs, J. K., Gu, et al
  2017

- **An immune clock of human pregnancy.** *Science immunology*
  Aghaeepour, N. n., Ganio, E. A., Mcilwain, D. n., Tsai, A. S., Tingle, M. n., Van Gassen, S. n., Gaudilliere, D. K., Baca, Q. n., McNeil, L. n., Okada, R. n., Ghaemi, M. S., Furman, D. n., Wong, et al

2017; 2 (15)

- **Mapping the Fetomaternal Peripheral Immune System at Term Pregnancy.** *Journal of immunology*
  Fragiadakis, G. K., Baca, Q. J., Gherardini, P. F., Ganio, E. A., Gaudilliere, D. K., Tingle, M., Lancero, H. L., McNeil, L. S., Spitzer, M. H., Wong, R. J., Shaw, G. M., Darmstadt, G. L., Sylvester, et al
  2016

- **Mutant IDH1 Downregulates ATM and Alters DNA Repair and Sensitivity to DNA Damage Independent of TET2.** *Cancer cell*
  Inoue, S., Li, W. Y., Tseng, A., Beerman, I., Elia, A. J., Bendall, S. C., Lemonnier, F., Kron, K. J., Cescon, D. W., Hao, Z., Lind, E. F., Takayama, N., Planello, et al
  2016; 30 (2): 337-348

- **Visualization and cellular hierarchy inference of single-cell data using SPADE.** *Nature protocols*
  Anchang, B., Hart, T. D., Bendall, S. C., Qiu, P., Bjornson, Z., Linderman, M., Nolan, G. P., Plevritis, S. K.
  2016; 11 (7): 1264-1279

- **Small molecule inhibition of cAMP response element binding protein in human acute myeloid leukemia cells.** *Leukemia*
  Mitton, B., Chae, H., Hsu, K., Dutta, R., Aldana-Masangkay, G., FERRARI, R., Davis, K., Tiu, B. C., Kaul, A., Lacayo, N., Dahl, G., Xie, F., Li, et al
  2016

- **Automated mapping of phenotype space with single-cell data** *NATURE METHODS*
  Samusik, N., Good, Z., Spitzer, M. H., Davis, K. L., Nolan, G. P.
  2016; 13 (6): 493-?

- **In Reply.** *Anesthesiology*
  Angst, M. S., Fragiadakis, G. K., Gaudillière, B., Aghaeepour, N., Nolan, G. P.
  2016; 124 (6): 1414-1415

- **Mass Cytometry: Single Cells, Many Features** *CELL*
  Spitzer, M. H., Nolan, G. P.
  2016; 165 (4): 780-791

- **Highly multiplexed simultaneous detection of RNAs and proteins in single cells.** *Nature methods*
  Frei, A. P., Bava, F., Zunder, E. R., Hsieh, E. W., Chen, S., Nolan, G. P., Gherardini, P. F.
  2016; 13 (3): 269-275

- **Coordinate actions of innate immune responses oppose those of the adaptive immune system during Salmonella infection of mice** *SCIENCE SIGNALING*
  Hotson, A. N., Gopinath, S., Nicolau, M., Khasanova, A., Finck, R., Monack, D., Nolan, G. P.
  2016; 9 (410)

- **Coordinate actions of innate immune responses oppose those of the adaptive immune system during Salmonella infection of mice.** *Science signaling*
  Hotson, A. N., Gopinath, S., Nicolau, M., Khasanova, A., Finck, R., Monack, D., Nolan, G. P.
  2016; 9 (410): ra4

- **A benchmark for evaluation of algorithms for identification of cellular correlates of clinical outcomes.** *Cytometry. Part A : the journal of the International Society for Analytical Cytology*
  Aghaeepour, N., Chattopadhyay, P., Chikina, M., Dhaene, T., Van Gassen, S., Kursa, M., Lambrecht, B. N., Malek, M., McLachlan, G. J., Qian, Y., Qiu, P., Saeys, Y., Stanton, et al
  2016; 89 (1): 16-21

- **A benchmark for evaluation of algorithms for identification of cellular correlates of clinical outcomes** *CYTOMETRY PART A*
  Aghaeepour, N., Chattopadhyay, P., Chikina, M., Dhaene, T., Van Gassen, S., Kursa, M., Lambrecht, B. N., Malek, M., McLachlan, G. J., Qian, Y., Qiu, P., Saeys, Y., Stanton, et al
  2016; 89A (1): 16-21

- **AN UPDATED DEBARCODING TOOL FOR MASS CYTOMETRY WITH CELL TYPE-SPECIFIC AND CELL SAMPLE-SPECIFIC STRINGENCY ADJUSTMENT.** *Pacific Symposium on Biocomputing. Pacific Symposium on Biocomputing*
  Fread, K. I., Strickland, W. D., Nolan, G. P., Zunder, E. R.
  2016; 22: 588-598

- **Increased Frequency of Cells with Activated Ribosomal Protein S6 at Diagnosis Associates with MRD Positivity and Relapse in Childhood BCP ALL**
  Davis, K. L., Sarno, J., Biondi, A., Jager, A., Gaipa, G., Good, Z., Nolan, G. P.
  AMER SOC HEMATOLOGY.2015

- **Patient-specific Immune States before Surgery Are Strong Correlates of Surgical Recovery** *ANESTHESIOLOGY*
  Fragiadakis, G. K., Gaudilliere, B., Ganio, E. A., Aghaeepour, N., Tingle, M., Nolan, G. P., Angst, M. S.
  2015; 123 (6): 1241-1255

- **Deletions in the cytoplasmic domain of iRhom1 and iRhom2 promote shedding of the TNF receptor by the protease ADAM17** *SCIENCE SIGNALING*
  Maney, S. K., McIlwain, D. R., Polz, R., Pandyra, A. A., Sundaram, B., Wolff, D., Ohishi, K., Maretzky, T., Brooke, M. A., Evers, A., Vasudevan, A. A., Aghaeepour, N., Scheller, et al
  2015; 8 (401)

- **Single-cell systems-level analysis of human Toll-like receptor activation defines a chemokine signature in patients with systemic lupus erythematosus** *JOURNAL OF ALLERGY AND CLINICAL IMMUNOLOGY*
  O'Gorman, W. E., Hsieh, E. W., Savig, E. S., Gherardini, P. F., Hernandez, J. D., Hansmann, L., Balboni, I. M., Utz, P. J., Bendall, S. C., Fantl, W. J., Lewis, D. B., Nolan, G. P., Davis, et al
  2015; 136 (5): 1326-1336

- **Implementing Mass Cytometry at the Bedside to Study the Immunological Basis of Human Diseases: Distinctive Immune Features in Patients with a History of Term or Preterm Birth** *CYTOMETRY PART A*
  Gaudilliere, B., Ganio, E. A., Tingle, M., Lancero, H. L., Fragiadakis, G. K., Baca, Q. J., Aghaeepour, N., Wong, R. J., Quaintance, C., El-Sayed, Y. Y., Shaw, G. M., Lewis, D. B., Stevenson, et al
  2015; 87A (9): 817-829

- **UNIPOTENT MEGAKARYOPOIETIC PATHWAY BRIDGING HEMATOPOIETIC STEM CELLS AND MATURE MEGAKARYOCYTES**
  Nishikii, H., Umemoto, T., Goltsev, Y., Matsuzaki, Y., Yamato, M., Nolan, G., Negrin, R., Chiba, S.
  ELSEVIER SCIENCE INC.2015: S85

- **Implementing Mass Cytometry at the Bedside to Study the Immunological Basis of Human Diseases: Distinctive Immune Features in Patients with a History of Term or Preterm Birth.** *Cytometry. Part A : the journal of the International Society for Analytical Cytology*
  Gaudillière, B., Ganio, E. A., Tingle, M., Lancero, H. L., Fragiadakis, G. K., Baca, Q. J., Aghaeepour, N., Wong, R. J., Quaintance, C., El-Sayed, Y. Y., Shaw, G. M., Lewis, D. B., Stevenson, et al
  2015; 87 (9): 817-829

- **Mass Cytometric Functional Profiling of Acute Myeloid Leukemia Defines Cell-Cycle and Immunophenotypic Properties That Correlate with Known Responses to Therapy.** *Cancer discovery*
  Behbehani, G. K., Samusik, N., Bjornson, Z. B., Fantl, W. J., Medeiros, B. C., Nolan, G. P.
  2015; 5 (9): 988-1003

- **Synthetically Modified Viral Capsids as Versatile Carriers for Use in Antibody-Based Cell Targeting.** *Bioconjugate chemistry*
  ElSohly, A. M., Netirojjanakul, C., Aanei, I. L., Jager, A., Bendall, S. C., Farkas, M. E., Nolan, G. P., Francis, M. B.
  2015; 26 (8): 1590-1596

- **mir-181a-1/b-1 Modulates Tolerance through Opposing Activities in Selection and Peripheral T Cell Function** *JOURNAL OF IMMUNOLOGY*
  Schaffert, S. A., Loh, C., Wang, S., Arnold, C. P., Axtell, R. C., Newell, E. W., Nolan, G., Ansel, K. M., Davis, M. M., Steinman, L., Chen, C.
  2015; 195 (4): 1470-1479

- **Synthetically Modified Viral Capsids as Versatile Carriers for Use in Antibody-Based Cell Targeting** *BIOCONJUGATE CHEMISTRY*
  ElSohly, A. M., Netirojjanakul, C., Aanei, I. L., Jager, A., Bendall, S. C., Farkas, M. E., Nolan, G. P., Francis, M. B.
  2015; 26 (8): 1590-1596

- **An interactive reference framework for modeling a dynamic immune system** *SCIENCE*
  Spitzer, M. H., Gherardini, P. F., Fragiadakis, G. K., Bhattacharya, N., Yuan, R. T., Hotson, A. N., Finck, R., Carmi, Y., Zunder, E. R., Fantl, W. J., Bendall, S. C., Engleman, E. G., Nolan, et al
  2015; 349 (6244): 155-?

- **IMMUNOLOGY. An interactive reference framework for modeling a dynamic immune system.** *Science*

Spitzer, M. H., Gherardini, P. F., Fragiadakis, G. K., Bhattacharya, N., Yuan, R. T., Hotson, A. N., Finck, R., Carmi, Y., Zunder, E. R., Fantl, W. J., Bendall, S. C., Engleman, E. G., Nolan, et al
2015; 349 (6244)

- **Reversibility of Defective Hematopoiesis Caused by Telomere Shortening in Telomerase Knockout Mice** *PLOS ONE*
  Raval, A., Behbehani, G. K., Le Xuan Truong Nguyen, L. X., Thomas, D., Kusler, B., Garbuzov, A., Ramunas, J., Holbrook, C., Park, C. Y., Blau, H., Nolan, G. P., Artandi, S. E., Mitchell, et al
  2015; 10 (7)

- **Data-Driven Phenotypic Dissection of AML Reveals Progenitor-like Cells that Correlate with Prognosis** *CELL*
  Levine, J. H., Simonds, E. F., Bendall, S. C., Davis, K. L., Amir, E. D., Tadmor, M. D., Litvin, O., Fienberg, H. G., Jager, A., Zunder, E. R., Finck, R., Gedman, A. L., Radtke, et al
  2015; 162 (1): 184-197

- **Unipotent Megakaryopoietic Pathway Bridging Hematopoietic Stem Cells and Mature Megakaryocytes** *STEM CELLS*
  Nishikii, H., Kanazawa, Y., Umemoto, T., Goltsev, Y., Matsuzaki, Y., Matsushita, K., Yamato, M., Nolan, G. P., Negrin, R., Chiba, S.
  2015; 33 (7): 2196-2207

- **Early reprogramming regulators identified by prospective isolation and mass cytometry** *NATURE*
  Lujan, E., Zunder, E. R., Ng, Y. H., Goronzy, I. N., Nolan, G. P., Wernig, M.
  2015; 521 (7552): 352-?

- **Mass cytometry as a platform for the discovery of cellular biomarkers to guide effective rheumatic disease therapy** *ARTHRITIS RESEARCH & THERAPY*
  Nair, N., Mei, H. E., Chen, S., Hale, M., Nolan, G. P., Maecker, H. T., Genovese, M., Fathman, C. G., Whiting, C. C.
  2015; 17

- **Nomenclature of Toso, Fas Apoptosis Inhibitory Molecule 3, and IgM FcR** *JOURNAL OF IMMUNOLOGY*
  Kubagawa, H., Carroll, M. C., Jacob, C. O., Lang, K. S., Lee, K., Mak, T., McAndrews, M., Morse, H. C., Nolan, G. P., Ohno, H., Richter, G. H., Seal, R., Wang, et al
  2015; 194 (9): 4055-4057

- **A Continuous Molecular Roadmap to iPSC Reprogramming through Progression Analysis of Single-Cell Mass Cytometry.** *Cell stem cell*
  Zunder, E. R., Lujan, E., Goltsev, Y., Wernig, M., Nolan, G. P.
  2015; 16 (3): 323-337

- **Immune Signatures of Women With Preterm Birth.**
  Baca, Q. J., Gaudilliere, B., Nolan, G. P., Angst, M. S.
  SAGE PUBLICATIONS INC.2015: 278A

- **Palladium-based mass tag cell barcoding with a doublet-filtering scheme and single-cell deconvolution algorithm.** *Nature protocols*
  Zunder, E. R., Finck, R., Behbehani, G. K., Amir, E. D., Krishnaswamy, S., Gonzalez, V. D., Lorang, C. G., Bjornson, Z., Spitzer, M. H., Bodenmiller, B., Fantl, W. J., Pe'er, D., Nolan, et al
  2015; 10 (2): 316-333

- **T-cell STAT3 is required for the maintenance of humoral immunity to LCMV.** *European journal of immunology*
  McIlwain, D. R., Grusdat, M., Pozdeev, V. I., Xu, H. C., Shinde, P., Reardon, C., Hao, Z., Beyer, M., Bergthaler, A., Häussinger, D., Nolan, G. P., Lang, K. S., Lang, et al
  2015; 45 (2): 418-427

- **Palladium-based mass tag cell barcoding with a doublet-filtering scheme and single-cell deconvolution algorithm.** *Nature protocols*
  Zunder, E. R., Finck, R., Behbehani, G. K., Amir, E. D., Krishnaswamy, S., Gonzalez, V. D., Lorang, C. G., Bjornson, Z., Spitzer, M. H., Bodenmiller, B., Fantl, W. J., Pe'er, D., Nolan, et al
  2015; 10 (2): 316-333

- **T-cell STAT3 is required for the maintenance of humoral immunity to LCMV.** *European journal of immunology*
  McIlwain, D. R., Grusdat, M., Pozdeev, V. I., Xu, H. C., Shinde, P., Reardon, C., Hao, Z., Beyer, M., Bergthaler, A., Häussinger, D., Nolan, G. P., Lang, K. S., Lang, et al
  2015; 45 (2): 418-427

- **Reversibility of Defective Hematopoiesis Caused by Telomere Shortening in Telomerase Knockout Mice.** *PloS one*

Raval, A., Behbehani, G. K., Nguyen, L. X., Thomas, D., Kusler, B., Garbuzov, A., Ramunas, J., Holbrook, C., Park, C. Y., Blau, H., Nolan, G. P., Artandi, S. E., Mitchell, et al
2015; 10 (7)

- **Deletions in the cytoplasmic domain of iRhom1 and iRhom2 promote shedding of the TNF receptor by the protease ADAM17.** *Science signaling*
  Maney, S. K., McIlwain, D. R., Polz, R., Pandyra, A. A., Sundaram, B., Wolff, D., Ohishi, K., Maretzky, T., Brooke, M. A., Evers, A., Vasudevan, A. A., Aghaeepour, N., Scheller, et al
  2015; 8 (401): ra109-?

- **Mass cytometry as a platform for the discovery of cellular biomarkers to guide effective rheumatic disease therapy.** *Arthritis research & therapy*
  Nair, N., Mei, H. E., Chen, S., Hale, M., Nolan, G. P., Maecker, H. T., Genovese, M., Fathman, C. G., Whiting, C. C.
  2015; 17: 127-?

- **Transient partial permeabilization with saponin enables cellular barcoding prior to surface marker staining.** *Cytometry. Part A : the journal of the International Society for Analytical Cytology*
  Behbehani, G. K., Thom, C., Zunder, E. R., Finck, R., Gaudilliere, B., Fragiadakis, G. K., Fantl, W. J., Nolan, G. P.
  2014; 85 (12): 1011-1019

- **Conditional density-based analysis of T cell signaling in single-cell data** *SCIENCE*
  Krishnaswamy, S., Spitzer, M. H., Mingueneau, M., Bendall, S. C., Litvin, O., Stone, E., Pe'er, D., Nolan, G. P.
  2014; 346 (6213): 1079-?

- **Systems biology. Conditional density-based analysis of T cell signaling in single-cell data.** *Science*
  Krishnaswamy, S., Spitzer, M. H., Mingueneau, M., Bendall, S. C., Litvin, O., Stone, E., Pe'er, D., Nolan, G. P.
  2014; 346 (6213)

- **NRASG12V oncogene facilitates self-renewal in a murine model of acute myelogenous leukemia.** *Blood*
  Sachs, Z., LaRue, R. S., Nguyen, H. T., Sachs, K., Noble, K. E., Mohd Hassan, N. A., Diaz-Flores, E., Rathe, S. K., Sarver, A. L., Bendall, S. C., Ha, N. A., Diers, M. D., Nolan, et al
  2014; 124 (22): 3274-3283

- **NRAS9(G12V) oncogene facilitates self-renewal in a murine model of acute myelogenous leukemia** *BLOOD*
  Sachs, Z., LaRue, R. S., Nguyen, H. T., Sachs, K., Noble, K. E., Hassan, N. A., Diaz-Flores, E., Rathe, S. K., Sarver, A. L., Bendall, S. C., Ha, N. A., Diers, M. D., Nolan, et al
  2014; 124 (22): 3274-3283

- **Single-cell mass cytometry of TCR signaling: Amplification of small initial differences results in low ERK activation in NOD mice** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
  Mingueneau, M., Krishnaswamy, S., Spitzer, M. H., Bendall, S. C., Stone, E. L., Hedrick, S. M., Pe'er, D., Mathis, D., Nolan, G. P., Benoist, C.
  2014; 111 (46): 16466-16471

- **Single-cell mass cytometry of TCR signaling: amplification of small initial differences results in low ERK activation in NOD mice.** *Proceedings of the National Academy of Sciences of the United States of America*
  Mingueneau, M., Krishnaswamy, S., Spitzer, M. H., Bendall, S. C., Stone, E. L., Hedrick, S. M., Pe'er, D., Mathis, D., Nolan, G. P., Benoist, C.
  2014; 111 (46): 16466-16471

- **Clinical recovery from surgery correlates with single-cell immune signatures** *SCIENCE TRANSLATIONAL MEDICINE*
  Gaudilliere, B., Fragiadakis, G. K., Bruggner, R. V., Nicolau, M., Finck, R., Tingle, M., Silva, J., Ganio, E. A., Yeh, C. G., Maloney, W. J., Huddleston, J. I., Goodman, S. B., Davis, et al
  2014; 6 (255)

- **Clinical recovery from surgery correlates with single-cell immune signatures.** *Science translational medicine*
  Gaudillière, B., Fragiadakis, G. K., Bruggner, R. V., Nicolau, M., Finck, R., Tingle, M., Silva, J., Ganio, E. A., Yeh, C. G., Maloney, W. J., Huddleston, J. I., Goodman, S. B., Davis, et al
  2014; 6 (255): 255ra131-?

- **Single-cell mass cytometry analysis of human tonsil T cell remodeling by varicella zoster virus.** *Cell reports*
  Sen, N., Mukherjee, G., Sen, A., Bendall, S. C., Sung, P., Nolan, G. P., Arvin, A. M.
  2014; 8 (2): 633-645

- **Single-Cell Mass Cytometry Analysis of Human Tonsil T Cell Remodeling by Varicella Zoster Virus** *CELL REPORTS*
  Sen, N., Mukherjee, G., Sen, A., Bendall, S. C., Sung, P., Nolan, G. P., Arvin, A. M.
  2014; 8 (2): 632-644
- **Automated identification of stratifying signatures in cellular subpopulations** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
  Bruggner, R. V., Bodenmiller, B., Dill, D. L., Tibshirani, R. J., Nolan, G. P.
  2014; 111 (26): E2770-E2777
- **Automated identification of stratifying signatures in cellular subpopulations.** *Proceedings of the National Academy of Sciences of the United States of America*
  Bruggner, R. V., Bodenmiller, B., Dill, D. L., Tibshirani, R. J., Nolan, G. P.
  2014; 111 (26): E2770-7
- **Joint Modeling and Registration of Cell Populations in Cohorts of High-Dimensional Flow Cytometric Data** *PLOS ONE*
  Pyne, S., Lee, S. X., Wang, K., Irish, J., Tamayo, P., Nazaire, M., Duong, T., Shu-Kay Ng, S. K., Hafler, D., Levy, R., Nolan, G. P., Mesirov, J., McLachlan, et al
  2014; 9 (7)
- **Single-Cell Trajectory Detection Uncovers Progression and Regulatory Coordination in Human B Cell Development** *CELL*
  Bendall, S. C., Davis, K. L., Amir, E. D., Tadmor, M. D., Simonds, E. F., Chen, T. J., Shenfeld, D. K., Nolan, G. P., Pe'er, D.
  2014; 157 (3): 714-725
- **Multiplexed ion beam imaging of human breast tumors.** *Nature medicine*
  Angelo, M., Bendall, S. C., Finck, R., Hale, M. B., Hitzman, C., Borowsky, A. D., Levenson, R. M., Lowe, J. B., Liu, S. D., Zhao, S., Natkunam, Y., Nolan, G. P.
  2014; 20 (4): 436-442
- **High Dimensional Single-Cell Characterization of Human Toll-Like-Receptor Activation: Potential Clinical Applications in Systemic Lupus Erythematosus**
  Hsieh, E., O'Gorman, W., Balboni, I. M., Savig, E., Gherardini, P., Davis, M. M., Nolan, G. P.
  SPRINGER/PLENUM PUBLISHERS.2014: 355
- **Multiplexed ion beam imaging of human breast tumors.** *Nature medicine*
  Angelo, M., Bendall, S. C., Finck, R., Hale, M. B., Hitzman, C., Borowsky, A. D., Levenson, R. M., Lowe, J. B., Liu, S. D., Zhao, S., Natkunam, Y., Nolan, G. P.
  2014; 20 (4): 436-442
- **Antigen-Dependent Integration of Opposing Proximal TCR-Signaling Cascades Determines the Functional Fate of T Lymphocytes** *JOURNAL OF IMMUNOLOGY*
  Wolchinsky, R., Hod-Marco, M., Oved, K., Shen-Orr, S. S., Bendall, S. C., Nolan, G. P., Reiter, Y.
  2014; 192 (5): 2109-2119
- **High Dimensional Single-Cell Mass Cytometry Demonstrates Conserved Human Toll-Like-Receptor Activation Signatures**
  Hsieh, E., O'Gorman, W., Savig, E., Gherardini, P., Davis, M., Nolan, G.
  MOSBY-ELSEVIER.2014: AB244
- **Mass cytometry to decipher the mechanism of nongenetic drug resistance in cancer.** *Current topics in microbiology and immunology*
  Fienberg, H. G., Nolan, G. P.
  2014; 377: 85-94
- **Leonard A Herzenberg 1931-2013** *NATURE IMMUNOLOGY*
  Nolan, G. P.
  2014; 15 (1): 1
- **Snapin, Positive Regulator of Stimulation- Induced Ca2+ Release through RyR, Is Necessary for HIV-1 Replication in T Cells** *PLOS ONE*
  Kinoshita, S. M., Kogure, A., Taguchi, S., Nolan, G. P.
  2013; 8 (10)
- **Towards rationale therapy: Dealing with intertumor and intratumor heterogeneity**
  Amir, E., Litvin, O., Levine, J., Bendall, S. C., Davis, K. L., Simonds, E. F., Schild, T., Rocco, M., Rosen, N., Nolan, G. P., Pe'er, D.

AMER ASSOC CANCER RESEARCH.2013

- **Multiparametric high dimensional analysis of normal & VZV infected human tonsil T cells at a single cell resolution by mass cytometry**
  Sen, N., Mukherjee, G., Bendall, S. C., Sen, A., Jager, A., Sung, P., Nolan, G. P., Johnstone, I., Arvin, A. M.
  ACADEMIC PRESS LTD- ELSEVIER SCIENCE LTD.2013: 298
- **Single timepoint models of dynamic systems** *INTERFACE FOCUS*
  Sachs, K., Itani, S., FitzGerald, J., Schoeberl, B., Nolan, G. P., Tomlin, C. J.
  2013; 3 (4)
- **Single-cell mass cytometry for analysis of immune system functional states.** *Current opinion in immunology*
  Bjornson, Z. B., Nolan, G. P., Fantl, W. J.
  2013; 25 (4): 484-494
- **The Systemic Immune State of Super-shedder Mice Is Characterized by a Unique Neutrophil-dependent Blunting of TH1 Responses.** *PLoS pathogens*
  Gopinath, S., Hotson, A., Johns, J., Nolan, G., Monack, D.
  2013; 9 (6)
- **The transcriptional landscape of aß T cell differentiation.** *Nature immunology*
  Mingueneau, M., Kreslavsky, T., Gray, D., Heng, T., Cruse, R., Ericson, J., Bendall, S., Spitzer, M. H., Nolan, G. P., Kobayashi, K., Von Boehmer, H., Mathis, D., Benoist, et al
  2013; 14 (6): 619-632
- **viSNE enables visualization of high dimensional single-cell data and reveals phenotypic heterogeneity of leukemia.** *Nature biotechnology*
  Amir, E. D., Davis, K. L., Tadmor, M. D., Simonds, E. F., Levine, J. H., Bendall, S. C., Shenfeld, D. K., Krishnaswamy, S., Nolan, G. P., Pe'er, D.
  2013; 31 (6): 545-552
- **The transcriptional landscape of alpha beta T cell differentiation** *NATURE IMMUNOLOGY*
  Mingueneau, M., Kreslavsky, T., Gray, D., Heng, T., Cruse, R., Ericson, J., Bendall, S., Spitzer, M., Nolan, G., Kobayashi, K., Von Boehmer, H., Mathis, D., Benoist, et al
  2013; 14 (6): 619-?
- **Normalization of mass cytometry data with bead standards.** *Cytometry. Part A : the journal of the International Society for Analytical Cytology*
  Finck, R., Simonds, E. F., Jager, A., Krishnaswamy, S., Sachs, K., Fantl, W., Pe'er, D., Nolan, G. P., Bendall, S. C.
  2013; 83 (5): 483-494
- **Single cell mass cytometry of human peripheral blood reveals an endogenous immune response to surgical trauma**
  Fragiadakis, G., Gaudilliere, B., Angst, M., Nolan, G.
  AMER ASSOC IMMUNOLOGISTS.2013
- **A DEFINABLE "STRUCTURE" FOR THE IMMUNE SYSTEM AND CANCERS AT THE SINGLE CELL LEVEL**
  Nolan, G. P.
  WILEY-BLACKWELL.2013: 1
- **Systematically defining murine immunity at the phenotypic and functional levels via mass cytometry**
  Spitzer, M., Hotson, A., Bendall, S., Engleman, E., Nolan, G.
  AMER ASSOC IMMUNOLOGISTS.2013
- **A robust and sensitive flow cytometric method for multiplex RNA in-situ hybridization analysis of blood cells using oligo probes and branched DNA based signal amplification**
  Lai, C., Levinson, S., Lin, A., Pache, J., Goltsev, Y., Nolan, G., Bers, G., Quan Nguyen
  AMER ASSOC IMMUNOLOGISTS.2013
- **Inner-outer beauty: DNA-binding surface tags as cellular barcodes.** *Nature methods*
  Nolan, G.
  2013; 10 (5): 399-401
- **Involvement of Toso in activation of monocytes, macrophages, and granulocytes** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*

Lang, K. S., Lang, P. A., Meryk, A., Pandyra, A. A., Boucher, L., Pozdeev, V. I., Tusche, M. W., Goethert, J. R., Haight, J., Wakeham, A., You-Ten, A. J., McIlwain, D. R., Merches, et al
2013; 110 (7): 2593-2598

- **Single Cell Mass Cytometry of Dysregulated Signaling Networks in Myeloproliferative Neoplasms and Secondary Acute Myeloid Leukemia** *54th Annual Meeting and Exposition of the American-Society-of-Hematology (ASH)*
  Fisher, D. A., Simonds, E. F., Behbehani, G. K., Nolan, G. P., Bendall, S. C., Oh, S. T.
  AMER SOC HEMATOLOGY.2012
- **Dimensionality Reduction Reveals Distinct Shapes of Normal and Malignant Hematopoietic Cell Populations**
  Bendall, S. C., Amir, E. D., Tadmor, M., Davis, K. L., Simonds, E. F., Shenfeld, D., Levine, J., Nolan, G. P., Pe'er, D.
  AMER SOC HEMATOLOGY.2012
- **Single Cell Trajectory Detection Orders Hallmarks of Early Human B Cell Development**
  Davis, K. L., Bendall, S. C., Amir, E. D., Simonds, E. F., Jager, A., Trejo, A., Pe'er, D., Nolan, G. P.
  AMER SOC HEMATOLOGY.2012
- **Activated NRAS Mediates Self-Renewal Capacity in AML by Facilitating the Mll/AF9-Specified Gene Expression Signature**
  Sachs, Z., Hanh Nguyen, Hassan, N., Rathe, S. K., Sachs, K., Diaz-Flores, E., Bendall, S. C., Diers, M. D., Nolan, G. P., Shannon, K. M., Largaespada, D. A.
  AMER SOC HEMATOLOGY.2012
- **Short Term Signalling Responses of the Most Primitive Subsets of Human Hematopoietic Cells Stimulated in Vitro Correlate with Their Subsequent Self-Renewal Behaviour** *54th Annual Meeting and Exposition of the American-Society-of-Hematology (ASH)*
  Knapp, D. J., Bendall, S. C., Miller, P. H., Cheung, A. M., Imren, S., Humphries, R. K., Brinkman, R. R., Oostendorp, R. A., Nolan, G. P., Eaves, C. J.
  AMER SOC HEMATOLOGY.2012
- **MASS CYTOMETRY TO COMPREHENSIVELY STUDY SINGLE CELL SIGNALING IN BIOLOGY AND DISEASE** *12th Euroconference on Clinical Cell Analysis / 8th European Clinical Cytometry Course*
  Bodenmiller, B., Zunder, E., Finck, R., Chen, T., Savig, E., Bruggner, R., Simonds, E., Bendall, S., Sachs, K., Krutzik, P., Nolan, G.
  WILEY-BLACKWELL.2012: 376–77
- **CytoSPADE: high-performance analysis and visualization of high-dimensional cytometry data** *BIOINFORMATICS*
  Linderman, M. D., Bjornson, Z., Simonds, E. F., Qiu, P., Bruggner, R. V., Sheode, K., Meng, T. H., Plevritis, S. K., Nolan, G. P.
  2012; 28 (18): 2400-2401
- **Multiplexed mass cytometry profiling of cellular states perturbed by small-molecule regulators** *NATURE BIOTECHNOLOGY*
  Bodenmiller, B., Zunder, E. R., Finck, R., Chen, T. J., Savig, E. S., Bruggner, R. V., Simonds, E. F., Bendall, S. C., Sachs, K., Krutzik, P. O., Nolan, G. P.
  2012; 30 (9): 858-U89
- **COP9 Signalosome Component JAB1/CSN5 Is Necessary for T Cell Signaling through LFA-1 and HIV-1 Replication** *PLOS ONE*
  Kinoshita, S. M., Krutzik, P. O., Nolan, G. P.
  2012; 7 (7)
- **From single cells to deep phenotypes in cancer** *NATURE BIOTECHNOLOGY*
  Bendall, S. C., Nolan, G. P.
  2012; 30 (7): 639-647
- **Raman Labeled Nanoparticles: Characterization of Variability and Improved Method for Unmixing.** *Journal of Raman spectroscopy : JRS*
  Kode, K., Shachaf, C., Elchuri, S., Nolan, G., Paik, D. S.
  2012; 43 (7): 895-905
- **Single-cell mass cytometry adapted to measurements of the cell cycle** *CYTOMETRY PART A*
  Behbehani, G. K., Bendall, S. C., Clutter, M. R., Fantl, W. J., Nolan, G. P.
  2012; 81A (7): 552-566
- **Single-cell mass cytometry adapted to measurements of the cell cycle.** *Cytometry. Part A : the journal of the International Society for Analytical Cytology*
  Behbehani, G. K., Bendall, S. C., Clutter, M. R., Fantl, W. J., Nolan, G. P.
  2012; 81 (7): 552-566

- **A deep profiler's guide to cytometry** *TRENDS IN IMMUNOLOGY*
  Bendall, S. C., Nolan, G. P., Roederer, M., Chattopadhyay, P. K.
  2012; 33 (7): 323-332
- **Raman labeled nanoparticles: characterization of variability and improved method for unmixing** *JOURNAL OF RAMAN SPECTROSCOPY*
  Kode, K., Shachaf, C., Elchuri, S., Nolan, G., Paik, D. S.
  2012; 43 (7): 895-905
- **A platinum-based covalent viability reagent for single-cell mass cytometry.** *Cytometry. Part A : the journal of the International Society for Analytical Cytology*
  Fienberg, H. G., Simonds, E. F., Fantl, W. J., Nolan, G. P., Bodenmiller, B.
  2012; 81 (6): 467-475
- **A platinum-based covalent viability reagent for single-cell mass cytometry** *CYTOMETRY PART A*
  Fienberg, H. G., Simonds, E. F., Fantl, W. J., Nolan, G. P., Bodenmiller, B.
  2012; 81A (6): 467-475
- **Identification of two unrecognized acute myeloid leukemia (AML) subtypes based on cell by cell analysis of leukemic blasts**
  Hsu, F., Nolan, G. P., Chen, T., Goltsev, Y.
  AMER ASSOC CANCER RESEARCH.2012
- **Decoupling of Tumor-Initiating Activity from Stable Immunophenotype in HoxA9-Meis1-Driven AML** *CELL STEM CELL*
  Gibbs, K. D., Jager, A., Crespo, O., Goltsev, Y., Trejo, A., Richard, C. E., Nolan, G. P.
  2012; 10 (2): 210-217
- **Single-cell phospho-protein analysis by flow cytometry.** *Current protocols in immunology / edited by John E. Coligan ... [et al.]*
  Schulz, K. R., Danna, E. A., Krutzik, P. O., Nolan, G. P.
  2012; Chapter 8: Unit 8 17 1-20
- **Cytometry by Time-of-Flight Shows Combinatorial Cytokine Expression and Virus-Specific Cell Niches within a Continuum of CD8(+) T Cell Phenotypes** *IMMUNITY*
  Newell, E. W., Sigal, N., Bendall, S. C., Nolan, G. P., Davis, M. M.
  2012; 36 (1): 142-152
- **A novel splice donor mutation in the thrombopoietin gene leads to exon 2 skipping in a Filipino family with hereditary thrombocythemia.** *Blood*
  Zhang, B., Ng, D., Jones, C., Oh, S. T., Nolan, G. P., Salehi, S., Wong, W., Zehnder, J. L., Gotlib, J.
  2011; 118 (26): 6988-6990
- **A novel splice donor mutation in the thrombopoietin gene leads to exon 2 skipping in a Filipino family with hereditary thrombocythemia** *BLOOD*
  Ng, D., Jones, C., Oh, S. T., Nolan, G. P., Salehi, S., Wong, W., Zehnder, J. L., Gotlib, J.
  2011; 118 (26): 6988-?
- **Flow cytometry in the post fluorescence era** *BEST PRACTICE & RESEARCH CLINICAL HAEMATOLOGY*
  Nolan, G. R.
  2011; 24 (4): 505-508
- **Signaling and Immunophenotypic Diversity in Pediatric Acute Myeloid Leukemia As Defined by 31-Parameter Single-Cell Mass Cytometry** *53rd Annual Meeting and Exposition of the American-Society-of-Hematology (ASH)*
  Simonds, E. F., Bendall, S. C., Davis, K. L., Fienberg, H. G., Finck, R. L., Amir, E. D., Radtke, I., Downing, J. R., Pe'er, D., Nolan, G. P.
  AMER SOC HEMATOLOGY.2011: 1100–1101
- **Novel Hematopoietic Progenitor Populations Revealed by Direct Assessment of GATA1 Protein Expression and cMPL Signaling Events** *STEM CELLS*
  Heffner, G. C., Clutter, M. R., Nolan, G. P., Weissman, I. L.
  2011; 29 (11): 1774-1782
- **Association of Reactive Oxygen Species-Mediated Signal Transduction with In Vitro Apoptosis Sensitivity in Chronic Lymphocytic Leukemia B Cells** *PLOS ONE*
  Palazzo, A. L., Evensen, E., Huang, Y., Cesano, A., Nolan, G. P., Fantl, W. J.

2011; 6 (10)

- **Extracting a cellular hierarchy from high-dimensional cytometry data with SPADE** *NATURE BIOTECHNOLOGY*
  Qiu, P., Simonds, E. F., Bendall, S. C., Gibbs, K. D., Bruggner, R. V., Linderman, M. D., Sachs, K., Nolan, G. P., Plevritis, S. K.
  2011; 29 (10): 886-U181

- **A regression model approach to enable cell morphology correction in high-throughput flow cytometry** *MOLECULAR SYSTEMS BIOLOGY*
  Knijnenburg, T. A., Roda, O., Wan, Y., Nolan, G. P., Aitchison, J. D., Shmulevich, I.
  2011; 7

- **Structural Linkage between Ligand Discrimination and Receptor Activation by Type I Interferons** *CELL*
  Thomas, C., Moraga, I., Levin, D., Krutzik, P. O., Podoplelova, Y., Trejo, A., Lee, C., Yarden, G., Vleck, S. E., Glenn, J. S., Nolan, G. P., Piehler, J., Schreiber, et al
  2011; 146 (4): 621-632

- **Single-Cell Mass Cytometry of Differential Immune and Drug Responses Across a Human Hematopoietic Continuum** *SCIENCE*
  Bendall, S. C., Simonds, E. F., Qiu, P., Amir, E. D., Krutzik, P. O., Finck, R., Bruggner, R. V., Melamed, R., Trejo, A., Ornatsky, O. I., Balderas, R. S., Plevritis, S. K., Sachs, et al
  2011; 332 (6030): 687-696

- **Single-cell phospho-specific flow cytometric analysis demonstrates biochemical and functional heterogeneity in human hematopoietic stem and progenitor compartments** *BLOOD*
  Gibbs, K. D., Gilbert, P. M., Sachs, K., Zhao, F., Blau, H. M., Weissman, I. L., Nolan, G. P., Majeti, R.
  2011; 117 (16): 4226-4233

- **Cloud and heterogeneous computing solutions exist today for the emerging big data problems in biology** *NATURE REVIEWS GENETICS*
  Schadt, E. E., Linderman, M. D., Sorenson, J., Lee, L., Nolan, G. P.
  2011; 12 (3)

- **Fluorescent cell barcoding for multiplex flow cytometry.** *Current protocols in cytometry / editorial board, J. Paul Robinson, managing editor ... [et al.]*
  Krutzik, P. O., Clutter, M. R., Trejo, A., Nolan, G. P.
  2011; Chapter 6: Unit 6 31-?

- **Phospho flow cytometry methods for the analysis of kinase signaling in cell lines and primary human blood samples.** *Methods in molecular biology (Clifton, N.J.)*
  Krutzik, P. O., Trejo, A., Schulz, K. R., Nolan, G. P.
  2011; 699: 179-202

- **Phosphoproteomic Analysis Reveals Interconnected System-Wide Responses to Perturbations of Kinases and Phosphatases in Yeast** *SCIENCE SIGNALING*
  Bodenmiller, B., Wanka, S., Kraft, C., Urban, J., Campbell, D., Pedrioli, P. G., Gerrits, B., Picotti, P., Lam, H., Vitek, O., Brusniak, M., Roschitzki, B., Zhang, et al
  2010; 3 (153)

- **Identification of Novel LNK Mutations In Patients with Chronic Myeloproliferative Neoplasms and Related Disorders** *52nd Annual Meeting and Exposition of the American-Society-of-Hematology (ASH)*
  Oh, S. T., Zahn, J. M., Jones, C. D., Zhang, B., Loh, M. L., Kantarjian, H., Simonds, E. F., Bruggner, R. V., Abidi, P., Natsoulis, G., Bell, J., Buenrostro, J., Nolan, et al
  AMER SOC HEMATOLOGY.2010: 143–44

- **Oncogene Withdrawal Selectively Alters Phosphoprotein States and Shifts Differentiation Status In Myeloid Leukemia Subpopulations** *52nd Annual Meeting and Exposition of the American-Society-of-Hematology (ASH)*
  Sachs, Z., Diaz-Flores, E., Diers, M. D., Sachs, K., Bendall, S. C., Fienberg, H. G., Rathe, S. K., Nolan, G. P., Shannon, K., Largaespada, D.
  AMER SOC HEMATOLOGY.2010: 1300–1300

- **Clinical Translation of a Prognostic Follicular Lymphoma Signaling Profile** *52nd Annual Meeting and Exposition of the American-Society-of-Hematology (ASH)*
  Irish, J. M., Czerwinski, D. K., Nolan, G. P., Levy, R.
  AMER SOC HEMATOLOGY.2010: 279–79

- **Identification of a Novel Splice Donor Mutation In the Thrombopoietin Gene In a Philippine Family with Hereditary Thrombocythemia** *52nd Annual Meeting and Exposition of the American-Society-of-Hematology (ASH)*
  Gotlib, J., Zhang, B., Jones, C. D., Riess, J., Wong, W. B., Simonds, E. F., Hale, M. B., Abidi, P., McClung, J., Nolan, G. P., Oh, S. T., Zehnder, J. L.
  AMER SOC HEMATOLOGY.2010: 1272–72

- **Tyramide signal amplification for analysis of kinase activity by intracellular flow cytometry.** *Cytometry. Part A : the journal of the International Society for Analytical Cytology*
  Clutter, M. R., Heffner, G. C., Krutzik, P. O., Sachen, K. L., Nolan, G. P.
  2010; 77 (11): 1020-1031

- **Tyramide Signal Amplification for Analysis of Kinase Activity by Intracellular Flow Cytometry** *CYTOMETRY PART A*
  Clutter, M. R., Heffner, G. C., Krutzik, P. O., Sachen, K. L., Nolan, G. P.
  2010; 77A (11): 1020-1031

- **Mammalian Target of Rapamycin Controls Dendritic Cell Development Downstream of Flt3 Ligand Signaling** *IMMUNITY*
  Sathaliyawala, T., O'Gorman, W. E., Greter, M., Bogunovic, M., Konjufca, V., Hou, Z. E., Nolan, G. P., Miller, M. J., Merad, M., Reizis, B.
  2010; 33 (4): 597-606

- **Duration of antigen receptor signaling determines T-cell tolerance or activation** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
  Katzman, S. D., O'Gorman, W. E., Villarino, A. V., Gallo, E., Friedman, R. S., Krummel, M. F., Nolan, G. P., Abbas, A. K.
  2010; 107 (42): 18085-18090

- **Computational solutions to large-scale data management and analysis** *NATURE REVIEWS GENETICS*
  Schadt, E. E., Linderman, M. D., Sorenson, J., Lee, L., Nolan, G. P.
  2010; 11 (9): 647-657

- **Distinct Patterns of DNA Damage Response and Apoptosis Correlate with Jak/Stat and PI3Kinase Response Profiles in Human Acute Myelogenous Leukemia** *PLOS ONE*
  Rosen, D. B., Putta, S., Covey, T., Huang, Y., Nolan, G. P., Cesano, A., Minden, M. D., Fantl, W. J.
  2010; 5 (8)

- **Alternate Mechanisms of Initial Pattern Recognition Drive Differential Immune Responses to Related Poxviruses** *CELL HOST & MICROBE*
  O'Gorman, W. E., Sampath, P., Simonds, E. F., Sikorski, R., O'Malley, M., Krutzik, P. O., Chen, H., Panchanathan, V., Chaudhri, G., Karupiah, G., Lewis, D. B., Thorne, S. H., Nolan, et al
  2010; 8 (2): 174-185

- **Novel mutations in the inhibitory adaptor protein LNK drive JAK-STAT signaling in patients with myeloproliferative neoplasms** *BLOOD*
  Oh, S. T., Simonds, E. F., Jones, C., Hale, M. B., Goltsev, Y., Gibbs, K. D., Merker, J. D., Zehnder, J. L., Nolan, G. P., Gotlib, J.
  2010; 116 (6): 988-992

- **New technologies for autoimmune disease monitoring** *CURRENT OPINION IN ENDOCRINOLOGY DIABETES AND OBESITY*
  Maecker, H. T., Nolan, G. P., Fathman, C. G.
  2010; 17 (4): 322-328

- **B-cell signaling networks reveal a negative prognostic human lymphoma cell subset that emerges during tumor progression** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
  Irish, J. M., Myklebust, J. H., Alizadeh, A. A., Houot, R., Sharman, J. P., Czerwinski, D. K., Nolan, G. P., Levy, R.
  2010; 107 (29): 12747-12754

- **High-throughput Bayesian Network Learning using Heterogeneous Multicore Computers.** *ICS ... : proceedings of the ... ACM International Conference on Supercomputing. International Conference on Supercomputing*
  Linderman, M. D., Athalye, V., Meng, T. H., Asadi, N. B., Bruggner, R., Nolan, G. P.
  2010; 2010: 95–104

- **Towards Program Optimization through Automated Analysis of Numerical Precision.** *Proceedings of the ... CGO : International Symposium on Code Generation and Optimization. International Symposium on Code Generation and Optimization*
  Linderman, M. D., Ho, M., Dill, D. L., Meng, T. H., Nolan, G. P.
  2010; 2010: 230-237

- **Altered T Cell Antigen-specific Receptor Signaling in Tumor Infiltrating T Cells in Follicular Lymphomas** *10th Annual Meeting of the Federation-of-Clinical-Immunology-Societies*
  Hsu, F., Irish, J., Sachs, K., Nolan, G.
  ACADEMIC PRESS INC ELSEVIER SCIENCE.2010: S66–S66
- **Towards Program Optimization through Automated Analysis of Numerical Precision** *8th International Symposium on Code Generation and Optimization*
  Linderman, M. D., Ho, M., Dill, D. L., Meng, T. H., Nolan, G. P.
  IEEE COMPUTER SOC.2010: 230–37
- **Single Cell Phospho-Flow Analysis of Cytokine Stimulation in Human Hematopoietic Progenitors Reveals That G-CSF Acts Directly On Human Hematopoietic Stem Cells.** *51st Annual Meeting and Exposition of the American-Society-of-Hematology*
  Gibbs, K., Gilbert, P., Weissman, I. L., Blau, H. M., Nolan, G. P., Majeti, R.
  AMER SOC HEMATOLOGY.2009: 1398–98
- **Stage Dependent Aberrant Regulation of Cytokine-STAT Signaling in Murine Systemic Lupus Erythematosus** *PLOS ONE*
  Hale, M. B., Krutzik, P. O., Samra, S. S., Crane, J. M., Nolan, G. P.
  2009; 4 (8)
- **The Initial Phase of an Immune Response Functions to Activate Regulatory T Cells** *JOURNAL OF IMMUNOLOGY*
  O'Gorman, W. E., Dooms, H., Thorne, S. H., Kuswanto, W. F., Simonds, E. F., Krutzik, P. O., Nolan, G. P., Abbas, A. K.
  2009; 183 (1): 332-339
- **The T Cell STAT Signaling Network Is Reprogrammed within Hours of Bacteremia via Secondary Signals** *JOURNAL OF IMMUNOLOGY*
  Hotson, A. N., Hardy, J. W., Hale, M. B., Contag, C. H., Nolan, G. P.
  2009; 182 (12): 7558-7568
- **Paired phospho-proteomic and genomic analyses reveal functionally distinct subclones in refractory pediatric acute myeloid leukemia**
  Simonds, E., Schiffman, J., Gramatges, M., Dahl, G., Ford, J., Lacayo, N., Ji, H., Nolan, G.
  AMER ASSOC CANCER RESEARCH.2009
- **A Novel Method for Detection of Phosphorylation in Single Cells by Surface Enhanced Raman Scattering (SERS) using Composite Organic-Inorganic Nanoparticles (COINs)** *PLOS ONE*
  Shachaf, C. M., Elchuri, S. V., Koh, A. L., Zhu, J., Nguyen, L. N., Mitchell, D. J., Zhang, J., Swartz, K. B., Sun, L., Chan, S., Sinclair, R., Nolan, G. P.
  2009; 4 (4)
- **WebFlow: A Software Package for High-Throughput Analysis of Flow Cytometry Data** *ASSAY AND DRUG DEVELOPMENT TECHNOLOGIES*
  Hammer, M. M., Kotecha, N., Irish, J. M., Nolan, G. P., Krutzik, P. O.
  2009; 7 (1): 44-55
- **Learning Signaling Network Structures with Sparsely Distributed Data** *JOURNAL OF COMPUTATIONAL BIOLOGY*
  Sachs, K., Itani, S., Carlisle, J., Nolan, G. P., Pe'er, D., Lauffenburger, D. A.
  2009; 16 (2): 201-212
- **Characterization of Patient Specific Signaling via Augmentation of Bayesian Networks with Disease and Patient State Nodes** *Annual International Conference of the IEEE-Engineering-in-Medicine-and-Biology-Society*
  Sachs, K., Gentles, A. J., Youland, R., Itani, S., Irish, J., Nolan, G. P., Plevritis, S. K.
  IEEE.2009: 6624–6627
- **LEARNING CYCLIC SIGNALING PATHWAY STRUCTURES WHILE MINIMIZING DATA REQUIREMENTS** *Pacific Symposium on Biocomputing*
  Sachs, K., Itani, S., Fitzgerald, J., Wille, L., Schoeberl, B., Dahleh, M. A., Nolan, G. P.
  WORLD SCIENTIFIC PUBL CO PTE LTD.2009: 63–74
- **Conditional protein stabilization via the small molecules Shld-1 and rapamycin increases the signal-to-noise ratio with tet-inducible gene expression** *BIOTECHNIQUES*
  Almogy, G., Nolan, G. P.
  2009; 46 (1): 44-50
- **Electron microscopy localization and characterization of functionalized composite organic-inorganic SERS nanoparticles on leukemia cells** *ULTRAMICROSCOPY*
  Koh, A. L., Shachaf, C. M., Elchuri, S., Nolan, G. P., Sinclair, R.

2008; 109 (1): 111-121

- **Signaling Diversity in Human Lymphoma B Cells and in Tumor Infiltrating T Cells Correlates with Follicular Lymphoma Patient Clinical Outcomes** *50th Annual Meeting of the American-Society-of-Hematology/ASH/ASCO Joint Symposium*
  Irish, J. M., Houot, R., Myklebust, J. H., Czerwinski, D. K., Nolan, G. P., Levy, R.
  AMER SOC HEMATOLOGY.2008: 146–46

- **Single-cell profiling identifies aberrant STAT5 activation in myeloid malignancies with specific clinical and biologic correlates** *CANCER CELL*
  Kotecha, N., Floress, N. J., Irish, J. M., Simonds, E. F., Sakai, D. S., Archambeault, S., Diaz-Flores, E., Coram, M., Shannon, K. M., Nolan, G. P., Loh, M. L.
  2008; 14 (4): 335-343

- **MIFlowCyt: The Minimum Information about a Flow Cytometry Experiment** *CYTOMETRY PART A*
  Lee, J. A., Spidlen, J., Boyce, K., Cai, J., Crosbie, N., Dalphin, M., Furlong, J., Gasparetto, M., Goldberg, M., Goralczyk, E. M., Hyun, B., Jansen, K., Kollmann, et al
  2008; 73A (10): 926-930

- **MIFlowCyt: the minimum information about a Flow Cytometry Experiment.** *Cytometry. Part A : the journal of the International Society for Analytical Cytology*
  Lee, J. A., Spidlen, J., Boyce, K., Cai, J., Crosbie, N., Dalphin, M., Furlong, J., Gasparetto, M., Goldberg, M., Goralczyk, E. M., Hyun, B., Jansen, K., Kollmann, et al
  2008; 73 (10): 926-930

- **Genomic and proteomic analysis reveals a threshold level of MYC required for tumor maintenance** *CANCER RESEARCH*
  Shachaf, C. M., Gentles, A. J., Elchuri, S., Sahoo, D., Soen, Y., Sharpe, O., Perez, O. D., Chang, M., Mitchel, D., Robinson, W. H., Dill, D., Nolan, G. P., Plevritis, et al
  2008; 68 (13): 5132-5142

- **Single-cell, phosphoepitope-specific analysis demonstrates cell type- and pathway-specific dysregulation of Jak/STAT and MAPK signaling associated with in vivo human immunodeficiency virus type 1 infection** *JOURNAL OF VIROLOGY*
  Lee, A. W., Sharp, E. R., O'Mahony, A., Rosenberg, M. G., Israelski, D. M., Nolan, G. P., Nixon, D. F.
  2008; 82 (7): 3702-3712

- **High-content single-cell drug screening with phosphospecific flow cytometry** *NATURE CHEMICAL BIOLOGY*
  Krutzik, P. O., Crane, J. M., Clutter, M. R., Nolan, G. P.
  2008; 4 (2): 132-142

- **Structure learning for biomolecular pathways containing cycles** *8th IEEE International Conference on Bioinformatics and Bioengineering*
  Itani, S., Sachs, K., Nolan, G. P., Dahleh, M. A.
  IEEE.2008: 486–491

- **Targeting HMGcoA reductase for prevention of MYC expressing lymphoma**
  Shachaf, C. M., Perez, O. D., Elchuri, S., Mitchell, D. J., Felsher, D. W., Nolan, G. P.
  AMER ASSOC CANCER RESEARCH.2007: 3586S

- **A profile of 648 signaling network events identifies cell subsets with diverse, abnormal responses to lymphocyte stimuli within follicular lymphoma tumors** *49th Annual Meeting of the American-Society-of-Hematology*
  Irish, J. M., Hsu, F. Y., Sharman, J. P., Houot, R., Brody, J. D., Czerwinski, D. K., Nolan, G. P., Levy, R.
  AMER SOC HEMATOLOGY.2007: 111A–112A

- **A novel assay for juvenile myelomonocytic leukemia based on aberrant signaling networks measured via phospho-specific flow cytometry reduces diagnosis time from weeks to days.** *49th Annual Meeting of the American-Society-of-Hematology*
  Kotecha, N., Flores, N. J., Irish, J. M., Sakaguchi, D., Archambeault, S., Diaz-Flores, E., Coram, M., Shannon, K. M., Nolan, G. P., Loh, M. L.
  AMER SOC HEMATOLOGY.2007: 168A–168A

- **Inhibition of HMGcoA reductase by atorvastatin prevents and reverses MYC-induced lymphomagenesis** *BLOOD*
  Shachaf, C. M., Perez, O. D., Youssef, S., Fan, A. C., Elchuri, S., Goldstein, M. J., Shirer, A. E., Sharpe, O., Chen, J., Mitchell, D. J., Chang, M., Nolan, G. P., Steinman, et al
  2007; 110 (7): 2674-2684

- **Toward understanding the molecular mechanisms of lineage determination in hematopoietic stem cells** *36th Annual Meeting of the International-Society-for-Experimental-Hematology*
  Heffner, G. C., Clutter, M. R., Nolan, G. P., Weissman, I. L.
  ELSEVIER SCIENCE INC.2007: 19–19
- **K-Ras(G12D) expression induces hyperproliferation and aberrant signaling in primary hematopoietic stem/progenitor cells** *BLOOD*
  Van Meter, M. E., Diaz-Flores, E., Archard, J. A., Passegue, E., Irish, J. M., Kotecha, N., Nolan, G. P., Shannon, K., Braun, B. S.
  2007; 109 (9): 3945-3952
- **What's wrong with drug screening today** *NATURE CHEMICAL BIOLOGY*
  Nolan, G. P.
  2007; 3 (4): 187-191
- **Flt3 Y591 duplication and Bc1-2 overexpression are detected in acute myeloid leukemia cells with high levels of phosphorylated wild-type p53** *BLOOD*
  Irish, J. M., Anensen, N., Hovland, R., Skavland, J., Borresen-Dale, A., Bruserud, O., Nolan, G. P., Gjertsen, B. T.
  2007; 109 (6): 2589-2596
- **RACK1 regulates Ki-Ras-mediated signaling and morphological transformation of NIH 3T3 cells** *INTERNATIONAL JOURNAL OF CANCER*
  Bjorndal, B., Myklebust, L. M., Rosendal, K. R., Myromslien, F. D., Lorens, J. B., Nolan, G., Bruland, O., Lillehaug, J. R.
  2007; 120 (5): 961-969
- **The ERK mitogen-activated protein kinase pathway contributes to Ebola virus glycoprotein-induced cytotoxicity** *JOURNAL OF VIROLOGY*
  Zampieri, C. A., Fortin, J., Nolan, G. P., Nabel, G. J.
  2007; 81 (3): 1230-1240
- **Differential role of ICAM ligands in determination of human memory T cell differentiation** *BMC IMMUNOLOGY*
  Perez, O. D., Mitchell, D., Nolan, G. P.
  2007; 8
- **Visualizing inside the cell** *BIOLOGY OF BLOOD AND MARROW TRANSPLANTATION*
  Nolan, G.
  2007; 13 (1): 120-123
- **Cell-type specific changes in Cytokine-STAT signal transduction stage systemic lupus erythematosus**
  Matthew, Krutzik, P., Nolan, G.
  ACADEMIC PRESS INC ELSEVIER SCIENCE.2007: S138–S139
- **Altered B-cell receptor signaling kinetics distinguish human follicular lymphoma. B cells from tumor-infiltrating nonmalignant B cells** *BLOOD*
  Irish, J. M., Czerwinski, D. K., Nolan, G. P., Levy, R.
  2006; 108 (9): 3135-3142
- **Kinetics of B cell receptor signaling in human B cell subsets mapped by phosphospecific flow cytometry** *JOURNAL OF IMMUNOLOGY*
  Irish, J. M., Czerwinski, D. K., Nolan, G. P., Levy, R.
  2006; 177 (3): 1581-1589
- **Global transcriptional response to interferon is a determinant of HCV treatment outcome and is modified by race** *HEPATOLOGY*
  He, X., Ji, X., Hale, M. B., Cheung, R., Ahmed, A., Guo, Y., Nolan, G. P., Pfeffer, L. M., Wright, T. L., Risch, N., Tibshirani, R., Greenberg, H. B.
  2006; 44 (2): 352-359
- **Chemical labeling strategies for cell biology** *NATURE METHODS*
  Marks, K. M., Nolan, G. P.
  2006; 3 (8): 591-596
- **Phospho-specific flow cytometry: Intersection of immunology and biochemistry at the single-cell level** *CURRENT OPINION IN MOLECULAR THERAPEUTICS*
  Hale, M. B., Nolan, G. P.
  2006; 8 (3): 215-224

- **Fluorescent cell barcoding in flow cytometry allows high-throughput drug screening and signaling profiling** *NATURE METHODS*
  Krutzik, P. O., Nolan, G. P.
  2006; 3 (5): 361-368
- **Luminescent imaging of beta-galactosidase activity in living subjects using sequential reporter-enzyme luminescence** *NATURE METHODS*
  Wehrman, T. S., von Degenfeld, G., Krutzik, P., Nolan, G. P., Blau, H. M.
  2006; 3 (4): 295-301
- **Phospho-proteomic immune analysis by flow cytometry: from mechanism to translational medicine at the single-cell level** *IMMUNOLOGICAL REVIEWS*
  Perez, O. D., Nolan, G. P.
  2006; 210: 208-228
- **Transcending the biomarker mindset: deciphering disease mechanisms at the single cell level** *CURRENT OPINION IN CHEMICAL BIOLOGY*
  Danna, E. A., Nolan, G. P.
  2006; 10 (1): 20-27
- **Innovation - Mapping normal and cancer cell signalling networks: towards single-cell proteomics** *NATURE REVIEWS CANCER*
  Irish, J. M., Kotecha, N., Nolan, G. P.
  2006; 6 (2): 146-155
- **Mapping normal and cancer cell signalling networks: towards single-cell proteomics.** *Nature reviews. Cancer*
  Irish, J. M., Kotecha, N., Nolan, G. P.
  2006; 6 (2): 146-155
- **Deeper insights into hematological oncology disorders via single-cell phospho-signaling analysis.** *Hematology / the Education Program of the American Society of Hematology. American Society of Hematology. Education Program*
  Nolan, G. P.
  2006: 123-?
- **Rapid, sustained B cell receptor signaling in lymphoma B cells differs from normal signaling in tumor infiltrating nonmalignant B cells.** *47th Annual Meeting of the American-Society-of-Hematology*
  Irish, J. M., Czerwinski, D. K., Nolan, G. P., Levy, R.
  AMER SOC HEMATOLOGY.2005: 86A–87A
- **Multiparameter flow cytometric analysis reveals aberrant phosphorylation of a network of effector molecules in defined populations of Kras mutant bone marrow.** *47th Annual Meeting of the American-Society-of-Hematology*
  Van Meter, M. E., Diaz-Flores, E., Archard, J. A., Kotecha, N., Sabnis, A. J., Irish, J. M., Nolan, G. P., Shannon, K. M., Braun, B. S.
  AMER SOC HEMATOLOGY.2005: 73A–73A
- **T-Cell tropism and the role of ORF66 protein in pathogenesis of varicella-zoster virus infection** *JOURNAL OF VIROLOGY*
  Schaap, A., Fortin, J. F., Sommer, M., Zerboni, L., Stamatis, S., Ku, C. C., Nolan, G. P., Arvin, A. M.
  2005; 79 (20): 12921-12933
- **Phospho-specific flow cytometry in drug discovery.** *Drug discovery today. Technologies*
  Clutter, M. R., Krutzik, P. O., Nolan, G. P.
  2005; 2 (3): 295-302
- **Coordinate analysis of murine immune cell surface markers and intracellular phosphoproteins by flow cytometry** *JOURNAL OF IMMUNOLOGY*
  Krutzik, P. O., Clutter, M. R., Nolan, G. P.
  2005; 175 (4): 2357-2365
- **Characterization of the murine immunological signaling network with phosphospecific flow cytometry** *JOURNAL OF IMMUNOLOGY*
  Krutzik, P. O., Hale, M. B., Nolan, G. P.
  2005; 175 (4): 2366-2373
- **Multiparameter analysis of intracellular phosphoepitopes in immunophenotyped cell populations by flow cytometry.** *Current protocols in cytometry / editorial board, J. Paul Robinson, managing editor ... [et al.]*
  Perez, O. D., Mitchell, D., Campos, R., Gao, G., Li, L., Nolan, G. P.

2005; Chapter 6: Unit 6 20-?

- **Y-box-binding protein 1 confers EGF independence to human mammary epithelial cells** *ONCOGENE*
  Berquin, I. M., Pang, B., Dziubinski, M. L., Scott, L. M., Chen, Y. Q., Nolan, G. P., Ethier, S. P.
  2005; 24 (19): 3177-3186
- **Causal protein-signaling networks derived from multiparameter single-cell data** *SCIENCE*
  Sachs, K., Perez, O., Pe'er, D., Lauffenburger, D. A., Nolan, G. P.
  2005; 308 (5721): 523-529
- **A random peptide library fused to CCR5 for selection of mimetopes expressed on the mammalian cell surface via retroviral vectors** *JOURNAL OF BIOLOGICAL CHEMISTRY*
  Wolkowicz, R., Jager, G. C., Nolan, G. P.
  2005; 280 (15): 15195-15201
- **Gene therapy progress and prospects: Novel gene therapy approaches for AIDS** *GENE THERAPY*
  Wolkowicz, R., Nolan, G. P.
  2005; 12 (6): 467-476
- **Tadpoles by the tail** *NATURE METHODS*
  Nolan, G. P.
  2005; 2 (1): 11-12
- **Screening of retroviral cDNA libraries for factors involved in protein phosphorylation in signaling cascades** *NUCLEIC ACIDS RESEARCH*
  Stitz, J., Krutzik, P. O., Nolan, G. P.
  2005; 33 (4)
- **LFA-1 signaling through p44/42 is coupled to perforin degranulation in CD56(+)CD8(+) natural killer cells** *BLOOD*
  Perez, O. D., Mitchell, D., Jager, G. C., Nolan, G. P.
  2004; 104 (4): 1083-1093
- **Prolonged liver-specific transgene expression by a non-primate lentiviral vector** *BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS*
  Condiotti, R., Curran, M. A., Nolan, G. P., Giladi, H., Ketzinel-Gilad, M., Gross, E., Galun, E.
  2004; 320 (3): 998-1006
- **Single cell profiling of potentiated phospho-protein networks in cancer cells** *CELL*
  Irish, J. M., Hovland, R., Krutzik, P. O., Perez, O. D., Bruserud, O., Gjertsen, B. T., Nolan, G. P.
  2004; 118 (2): 217-228
- **A general approach for chemical labeling and rapid, spatially controlled protein inactivation** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
  Marks, K. M., Braun, P. D., Nolan, G. P.
  2004; 101 (27): 9982-9987
- **Analysis of protein phosphorylation and cellular signaling events by flow cytometry: techniques and clinical applications** *CLINICAL IMMUNOLOGY*
  Krutzik, P. O., Irish, J. M., Nolan, G. P., Perez, O. D.
  2004; 110 (3): 206-221
- **In vivo targeting of organic calcium sensors via genetically selected peptides** *CHEMISTRY & BIOLOGY*
  Marks, K. M., Rosinov, M., Nolan, G. P.
  2004; 11 (3): 347-356
- **Oligonucleotide-directed site-specific integration of high complexity libraries into ssDNA templates** *NUCLEIC ACIDS RESEARCH*
  Hale, M. B., Nolan, G. P., Wolkowicz, R.
  2004; 32 (2)
- **Analysis of signaling pathways in human T-Cells using Bayesian network modeling of single cell data** *IEEE Computational Systems Bioinformatics Conference (CSB 2004)*
  Sachs, K., Perez, O. D., Pe'er, D., Nolan, G. P., Gifford, D. K., Jaakkola, T. S., Lauffenburger, D. A.

IEEE COMPUTER SOC.2004: 644–644

- **Flow cytometric analysis of kinase signaling cascades.** *Methods in molecular biology (Clifton, N.J.)*
  Perez, O. D., Krutzik, P. O., Nolan, G. P.
  2004; 263: 67-94

- **Lentiviral vectors for the delivery of DNA into mammalian cells.** *Methods in molecular biology (Clifton, N.J.)*
  Wolkowicz, R., Nolan, G. P., Curran, M. A.
  2004; 246: 391-411

- **Leukocyte functional antigen 1 lowers T cell activation thresholds and signaling through cytohesin-1 and Jun-activating binding protein 1** *NATURE IMMUNOLOGY*
  Perez, O. D., Mitchell, D., Jager, G. C., South, S., Murriel, C., McBride, J., Herzenberg, L. A., Kinoshita, S., Nolan, G. P.
  2003; 4 (11): 1083-1092

- **Intracellular phospho-protein staining techniques for flow cytometry: Monitoring single cell signaling events** *CYTOMETRY PART A*
  Krutzik, P. O., Nolan, G. P.
  2003; 55A (2): 61-70

- **Intracellular phospho-protein staining techniques for flow cytometry: monitoring single cell signaling events.** *Cytometry. Part A : the journal of the International Society for Analytical Cytology*
  Krutzik, P. O., Nolan, G. P.
  2003; 55 (2): 61-70

- **Localized expression of an anti-TNF single-chain antibody prevents development of collagen-induced arthritis** *GENE THERAPY*
  Smith, R., Tarner, I. H., Hollenhorst, M., Lin, C., Levicnik, A. U., Fathman, C. G., Nolan, G. P.
  2003; 10 (15): 1248-1257

- **Interaction of HLA-DR with an acidic face of HLA-DM disrupts sequence-dependent interactions with peptides** *IMMUNITY*
  Pashine, A., Busch, R., Belmares, M. P., Munning, J. N., Doebele, R. C., Buckingham, M., Nolan, G. P., Mellins, E. D.
  2003; 19 (2): 183-192

- **Polyclonal antibodies to xenogeneic endothelial cells induce apoptosis and block support of tumor growth in mice** *VACCINE*
  Scappaticci, F. A., CONTRERAS, A., Boswell, C. A., Lewis, J. S., Nolan, G.
  2003; 21 (19-20): 2667-2677

- **Retroviral technology - Applications for expressed peptide libraries** *FRONTIERS IN BIOSCIENCE-LANDMARK*
  Wolkowicz, R., Nolan, G. P.
  2003; 8: D603-D619

- **Induction of anti-tumor immunity in mice using a syngeneic endothelial cell vaccine** *ANTICANCER RESEARCH*
  Scappaticci, F. A., Nolan, G. P.
  2003; 23 (2B): 1165-1172

- **Treatment of autoimmune disease by adoptive cellular gene therapy** *10th International Conference on Myasthenia Gravis and Related Disorders*
  Tarner, I. H., Slavin, A. J., McBride, J., Levicnik, A., Smith, R., Nolan, G. P., Contag, C. H., Fathman, C. G.
  NEW YORK ACAD SCIENCES.2003: 512–519

- **Expression from second-generation feline immunodeficiency virus vectors is impaired in human hematopoietic cells** *MOLECULAR THERAPY*
  Price, M. A., Case, S. S., Carbonaro, D. A., Yu, X. J., Petersen, D., Sabo, K. M., Curran, M. A., Engel, B. C., Margarian, H., Abkowitz, J. L., Nolan, G. P., Kohn, D. B., Crooks, et al
  2002; 6 (5): 645-652

- **Efficient transduction of pancreatic islets by feline immunodeficiency virus vectors** *TRANSPLANTATION*
  Curran, M. A., Ochoa, M. S., Molano, R. D., Pileggi, A., Inverardi, L., Kenyon, N. S., Nolan, G. P., Ricordi, C., Fenjves, E. S.
  2002; 74 (3): 299-306

- **Functional cloning of SPIN-2, a nuclear anti-apoptotic protein with roles in cell cycle progression** *LEUKEMIA*
  Fletcher, B. S., Dragstedt, C., Notterpek, L., Nolan, G. P.

2002; 16 (8): 1507-1518

- **Recognizing a something when your library sees it** *CHEMISTRY & BIOLOGY*
  Fortin, J. F., Nolan, G. P.
  2002; 9 (6): 670-672
- **Motexafin gadolinium (Gd-Tex) selectively induces apoptosis in HIV-1 infected CD4+T helper cells** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
  Perez, O. D., Nolan, G. P., Magda, D., MILLER, R. A., Herzenberg, L. A., Herzenberg, L. A.
  2002; 99 (4): 2270-2274
- **Simultaneous measurement of multiple active kinase states using polychromatic flow cytometry** *NATURE BIOTECHNOLOGY*
  Perez, O. D., Nolan, G. P.
  2002; 20 (2): 155-162
- **Activation of the PKB/AKT pathway by ICAM-2** *IMMUNITY*
  Perez, O. D., Kinoshita, S., Hitoshi, Y., Payan, D. G., Kitamura, T., Nolan, G. P., Lorens, J. B.
  2002; 16 (1): 51-65
- **Recombinant feline immunodeficiency virus vectors. Preparation and use.** *Methods in molecular medicine*
  Curran, M. A., Nolan, G. P.
  2002; 69: 335-350
- **Nonprimate lentiviral vectors** *LENTIVIRAL VECTORS*
  Curran, M. A., Nolan, G. P.
  2002; 261: 75-105
- **Induction of anti-tumor immunity in mice using a syngeneic endothelial cell vaccine.**
  Scappaticci, F. A., Sainath, P., Contreras, A., Nolan, G. P.
  AMER SOC HEMATOLOGY.2001: 823A
- **Resistance is futile: Assimilation of cellular machinery by HIV-1** *IMMUNITY*
  Perez, O. D., Nolan, G. P.
  2001; 15 (5): 687-690
- **Genetic selection and the lure of SIN - A rapid method for exploring gene function uses alphavirus expression cloning.** *NATURE BIOTECHNOLOGY*
  Nolan, G. P.
  2001; 19 (9): 824-825
- **A functional screen for genes inducing epidermal growth factor autonomy of human mammary epithelial cells confirms the role of amphiregulin** *ONCOGENE*
  Berquin, I. M., Dziubinski, M. L., Nolan, G. P., Ethier, S. P.
  2001; 20 (30): 4019-4028
- **Rapid production of retroviruses for efficient gene delivery to mammalian cells using 293T cell-based systems.** *Current protocols in immunology / edited by John E. Coligan ... [et al.]*
  Swift, S., Lorens, J., Achacoso, P., Nolan, G. P.
  2001; Chapter 10: Unit 10 17C-?
- **Retroviral transduction of a T cell receptor specific for an Epstein-Barr virus-encoded peptide** *CLINICAL IMMUNOLOGY*
  Orentas, R. J., Roskopf, S. J., Nolan, G. P., Nishimura, M. I.
  2001; 98 (2): 220-228
- **Combination angiostatin and endostatin gene transfer induces synergistic antiangiogenic activity in vitro and antitumor efficacy in leukemia and solid tumors in mice** *MOLECULAR THERAPY*
  Scappaticci, F. A., Smith, R., Pathak, A., Schloss, D., Lum, B., Cao, Y. H., Johnson, F., Engleman, E. G., Nolan, G. P.
  2001; 3 (2): 186-196
- **Statin-AE: a novel angiostatin-endostatin fusion protein with enhanced antiangiogenic and antitumor activity.** *Angiogenesis*
  Scappaticci, F. A., CONTRERAS, A., Smith, R., Bonhoure, L., Lum, B., Cao, Y., Engleman, E. G., Nolan, G. P.

2001; 4 (4): 263-268

- **Dominant effector genetics in mammalian cells** *NATURE GENETICS*
  Xu, X., Leo, C., Jang, Y. J., Chan, E., Padilla, D., Huang, B. C., Lin, T., Gururaja, T., Hitoshi, Y., Lorens, J. B., Anderson, D. C., Sikic, B., Luo, et al
  2001; 27 (1): 23-29

- **Wnt signaling is required for thymocyte development and activates Tcf-1 mediated transcription** *EUROPEAN JOURNAL OF IMMUNOLOGY*
  Staal, F. J., Meeldijk, J., Moerer, P., Jay, P., van de Weerdt, B. C., VAINIO, S., Nolan, G. P., Clevers, H.
  2001; 31 (1): 285-293

- **Neurotrophin dependence domain - A domain required for the mediation of apoptosis by the p75 neurotrophin receptor** *JOURNAL OF MOLECULAR NEUROSCIENCE*
  Rabizadeh, S., Ye, X., Sperandio, S., Wang, J. J., Ellerby, H. M., Ellerby, L. M., Giza, C., Andrusiak, R. L., Frankowski, H., Yaron, Y., Moayeri, N. N., Rovelli, G., Evans, et al
  2000; 15 (3): 215-229

- **Development of antiangiogenic radioligands for cancer in imaging and therapy.**
  Scappaticci, F. A., Goris, M., Contreras, A., Trisler, K., Nolan, G. P.
  AMER SOC HEMATOLOGY.2000: 61B

- **Expression of a peptide binding to receptor for activated C-kinase (RACK1) inhibits phorbol myristoyl acetate-stimulated phospholipase D activity in C3H/10T1/2 cells: dissociation of phospholipase D-mediated phosphatidylcholine breakdown from its synthesis** *BIOCHIMICA ET BIOPHYSICA ACTA-MOLECULAR AND CELL BIOLOGY OF LIPIDS*
  Thorsen, V. A., Bjorndal, B., Nolan, G., Fukami, M. H., Bruland, O., Lillehaug, J. R., Holmsen, H.
  2000; 1487 (2-3): 163-176

- **Retroviral delivery of peptide modulators of cellular functions** *MOLECULAR THERAPY*
  Lorens, J. B., Bennet, M. K., Pearsall, D. M., Throndset, W. R., Rossi, A. B., Armstrong, R. J., Fox, B. P., Chan, E. H., Luo, Y., Masuda, E., Ferrick, D. A., Anderson, D. C., Payan, et al
  2000; 1 (5): 438-447

- **Targeting rare populations of murine antigen-specific T lymphocytes by retroviral transduction for potential application in gene therapy for autoimmune disease** *JOURNAL OF IMMUNOLOGY*
  Costa, G. L., Benson, J. M., Seroogy, C. M., Achacoso, P., Fathman, C. G., Nolan, G. P.
  2000; 164 (7): 3581-3590

- **Efficient transduction of nondividing cells by optimized feline immunodeficiency virus vectors** *MOLECULAR THERAPY*
  Curran, M. A., Kaiser, S. M., Achacoso, P. L., Nolan, G. P.
  2000; 1 (1): 31-38

- **Retroviral and lentiviral gene therapy for autoimmune disease.** *Current directions in autoimmunity*
  Smith, R., Nolan, G. P.
  2000; 2: 167-188

- **Antiangiogenic gene therapy of murine B16F10 melanoma and L1210 leukemia tumors with angiostatin and endostatin containing MMuLV retroviral vectors.**
  Scappaticci, F. A., Smith, R., Schloss, D., Cao, Y., Engleman, E. G., Nolan, G. P., Leung, L.
  AMER SOC HEMATOLOGY.1999: 420B–420B

- **NF-kappa B to the rescue - RELs, apoptosis and cellular transformation** *TRENDS IN GENETICS*
  Foo, S. Y., Nolan, G. P.
  1999; 15 (6): 229-235

- **Identification of RIP3, a RIP-like kinase that activates apoptosis and NF kappa B** *CURRENT BIOLOGY*
  Yu, P. W., Huang, B. C., Shen, M., Quast, J., Chan, E., Xu, X., Nolan, G. P., Payan, D. G., Luo, Y.
  1999; 9 (10): 539-542

- **Analysis of genomic integrity and p53-dependent G(1) checkpoint in telomerase-induced extended-life-span human fibroblasts** *MOLECULAR AND CELLULAR BIOLOGY*
  Vaziri, H., Squire, J. A., Pandita, T. K., Bradley, G., Kuba, R. M., Zhang, H. H., Gulyas, S., Hill, R. P., Nolan, G. P., Benchimol, S.
  1999; 19 (3): 2373-2379

- **Growth inhibition and apoptosis due to restoration of E2A activity in T cell acute lymphoblastic leukemia cells** *JOURNAL OF EXPERIMENTAL MEDICINE*
  Park, S. T., Nolan, G. P., Sun, X. H.
  1999; 189 (3): 501-508

- **Single cell analysis and selection of living retrovirus vector-corrected mucopolysaccharidosis VII cells using a fluorescence-activated cell sorting-based assay for mammalian beta-glucuronidase enzymatic activity** *JOURNAL OF BIOLOGICAL CHEMISTRY*
  Lorincz, M. C., Parente, M. K., Roederer, M., Nolan, G. P., Diwu, Z. J., Martin, D. I., Herzenberg, L. A., Wolfe, J. H.
  1999; 274 (2): 657-665

- **Generation of retroviral vector for clinical studies using transient transfection** *HUMAN GENE THERAPY*
  Yang, S. L., Delgado, R., King, S. R., Woffendin, C., Barker, C. S., Yang, Z. Y., Xu, L., Nolan, G. P., Nabel, G. J.
  1999; 10 (1): 123-132

- **Local delivery of TNF by retrovirus-transduced T lymphocytes exacerbates experimental autoimmune encephalomyelitis** *CLINICAL IMMUNOLOGY*
  Dal Canto, R. A., Shaw, M. K., Nolan, G. P., Steinman, L., Fathman, C. G.
  1999; 90 (1): 10-14

- **Evolution of peptides that modulate the spectral qualities of bound, small-molecule fluorophores** *CHEMISTRY & BIOLOGY*
  Rozinov, M. N., Nolan, G. P.
  1998; 5 (12): 713-728

- **Host control of HIV-1 parasitism in T cells by the nuclear factor of activated T cells** *CELL*
  Kinoshita, S., Chen, B. K., Kaneshima, H., Nolan, G. P.
  1998; 95 (5): 595-604

- **The ICAM-2 alpha-actinin binding site mediates a survival signal**
  Lorens, J. B., Hitoshi, Y., Caldwell, J. S., Nolan, G. P.
  AMER SOC CELL BIOLOGY.1998: 367A–367A

- **Expression vectors and delivery systems - Editorial overview** *CURRENT OPINION IN BIOTECHNOLOGY*
  Nolan, G. P., Shatzman, A. R.
  1998; 9 (5): 447-450

- **Local delivery of cytokines by retrovirally transduced antigen-specific TCR+ hybridoma cells in experimental autoimmune encephalomyelitis** *Vth International Workshop on Cytokines at the Joint Meeting of the Ares-Sereno Foundation / European-Cytokine-Society*
  Dal Canto, R. A., Costa, G., Shaw, M. D., Seroogy, C., Nolan, G. P., Fathman, C. G.
  JOHN LIBBEY EUROTEXT LTD.1998: 83–91

- **Toso, a cell surface, specific regulator of Fas-induced apoptosis in T cells** *IMMUNITY*
  Hitoshi, Y., Lorens, J., Kitada, S. I., Fisher, J., Labarge, M., Ring, H. Z., FRANCKE, U., Reed, J. C., Kinoshita, S., Nolan, G. P.
  1998; 8 (4): 461-471

- **Effects of locally delivered cytokines on EAE**
  Dal Canto, R. A., Shaw, M. K., Steinman, L., Nolan, G. P., Fathman, C. G.
  FEDERATION AMER SOC EXP BIOL.1998: A308–A308

- **Cardiac development - Transcription and the broken heart** *NATURE*
  Nolan, G. P.
  1998; 392 (6672): 129-130

- **High-efficiency gene transfer and selection of human hematopoietic progenitor cells with a hybrid EBV/retroviral vector expressing the green fluorescence protein** *CANCER RESEARCH*
  Grignani, F., Kinsella, T., Mencarelli, A., Valtieri, M., Riganelli, D., Grignani, F., Lanfrancone, L., Peschle, C., Nolan, G. P., Pelicci, P. G.
  1998; 58 (1): 14-19

- **Inhibition of T cell and promotion of natural killer cell development by the dominant negative helix loop helix factor Id3** *JOURNAL OF EXPERIMENTAL MEDICINE*
  Heemskerk, M. H., Blom, B., Nolan, G., Stegmann, A. P., Bakker, A. Q., Weijer, K., Res, P. C., Spits, H.

1997; 186 (9): 1597-1602

- **Engineered virus targets HIV-infected cells: interview with Garry Nolan, Ph.D. Interview by John S. James.** *AIDS treatment news*
  Nolan, G.
  1997: 1-?

- **Harnessing viral devices as pharmaceuticals: Fighting HIV-1's fire with fire** *CELL*
  Nolan, G. P.
  1997; 90 (5): 821-824

- **Introduction of soluble proteins into the MHC class I pathway by conjugation to an HIV tat peptide** *JOURNAL OF IMMUNOLOGY*
  Kim, D. T., Mitchell, D. J., Brockstedt, D. G., Fong, L., Nolan, G. P., Fathman, C. G., Engleman, E. G., Rothbard, J. B.
  1997; 159 (4): 1666-1668

- **Local delivery of interleukin 4 by retrovirus-transduced T lymphocytes ameliorates experimental autoimmune encephalomyelitis** *JOURNAL OF EXPERIMENTAL MEDICINE*
  Shaw, M. K., Lorens, J. B., Dhawan, A., DalCanto, R., Tse, H. Y., Tran, A. B., Bonpane, C., Eswaran, S. L., Brocke, S., Sarvetnick, N., Steinman, L., Nolan, G. P., Fathman, et al
  1997; 185 (9): 1711-1714

- **The T cell activation factor NF-ATc positively regulates HIV-1 replication and gene expression in T cells** *IMMUNITY*
  Kinoshita, S., Su, L. S., Amano, M., Timmerman, L. A., Kaneshima, H., Nolan, G. P.
  1997; 6 (3): 235-244

- **Local delivery of interleukin-4 by retrovirus-transduced lymphocytes ameliorates experimental autoimmune encephalomyelitis.**
  Shaw, M. K., Lorens, J. B., Dhawan, A., DalCanto, R., Tse, H. Y., Tran, A. B., Bonpane, C., Eswaran, S. L., Brocke, S., Sarvetnick, N., Steinman, L., Nolan, G. P., Fathman, et al
  MOSBY-ELSEVIER.1997: 1976–76

- **Generation of high-titer, helper-free retroviruses by transient transfection.** *Methods in molecular medicine*
  Pear, W. S., Scott, M. L., Nolan, G. P.
  1997; 7: 41-57

- **Transport of immunogens into the MHC class I and II pathways by a peptide from HIV tat** *40th Symposium of the Alfred-Benzon-Foundation on HLA and Disease - the Molecular Basis*
  Rothbard, J., Kim, D., Mitchell, D., Bockstedt, D., Fong, L., Nolan, G., Fathman, C. G., Engleman, E.
  MUNKSGAARD.1997: 161–175

- **Transglutaminase 1 delivery to lamellar ichthyosis keratinocytes** *HUMAN GENE THERAPY*
  Choate, K. A., Kinsella, T. M., WILLIAMS, M. L., Nolan, G. P., Khavari, P. A.
  1996; 7 (18): 2247-2253

- **NF-kappa B homodimer binding within the HIV-1 initiator region and interactions with TFII-I** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
  Montano, M. A., Kripke, K., Norina, C. D., Achacoso, P., Herzenberg, L. A., Roy, A. L., Nolan, G. P.
  1996; 93 (22): 12376-12381

- **Identification of an oncogenic form of the thrombopoietin receptor MPL using retrovirus-mediated gene transfer** *BLOOD*
  Onishi, M., Mui, A. L., Morikawa, Y., Cho, L., Kinoshita, S., Nolan, G. P., Gorman, D. M., Miyajima, A., Kitamura, T.
  1996; 88 (4): 1399-1406

- **Simultaneous fluorescence-activated cell sorter analysis of two distinct transcriptional elements within a single cell using engineered green fluorescent proteins** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
  Anderson, M. T., Tjioe, I. M., Lorincz, M. C., Parks, D. R., Herzenberg, L. A., Nolan, G. P., Herzenberg, L. A.
  1996; 93 (16): 8508-8511

- **Episomal vectors rapidly and stably produce high-titer recombinant retrovirus** *HUMAN GENE THERAPY*
  Kinsella, T. M., Nolan, G. P.
  1996; 7 (12): 1405-1413

- **Enzyme-generated intracellular fluorescence for single-cell reporter gene analysis utilizing Escherichia coli beta-glucuronidase** *CYTOMETRY*

Lorincz, M., Roederer, M., Diwu, Z., Herzenberg, L. A., Nolan, G. P.
1996; 24 (4): 321-329

- **Rapid retroviral delivery of tetracycline-inducible genes in a single autoregulatory cassette** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
  Hofmann, A., Nolan, G. P., Blau, H. M.
  1996; 93 (11): 5185-5190

- **Applications of retrovirus-mediated expression cloning** *1995 Annual Meeting of the ISEH*
  Onishi, M., Kinoshita, S., Morikawa, Y., Shibuya, A., Phillips, J., Lanier, L. L., Gorman, D. M., Nolan, G. P., Miyajima, A., Kitamura, T.
  ELSEVIER SCIENCE INC.1996: 324–29

- **EFFICIENT SCREENING OF RETROVIRAL CDNA EXPRESSION LIBRARIES** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
  Kitamura, T., Onishi, M., Kinoshita, S., Shibuya, A., Miyajima, A., Nolan, G. P.
  1995; 92 (20): 9146-9150

- **EXPANDED ROLES FOR REL PROTEINS AT THE INITIATOR AND ENHANCER OF HIV-1**
  Nolan, G. P., Kinoshita, S., Achacoso, P., Roy, A., Montano, M.
  MARY ANN LIEBERT INC.1995: S114–S114

- **ACTIVATION OF THE TRANSCRIPTION FACTOR NF-KB IN GH(3) PITUITARY-CELLS** *MOLECULAR AND CELLULAR ENDOCRINOLOGY*
  Grandison, L., Nolan, G. P., Pfaff, D. W.
  1994; 106 (1-2): 9-15

- **GENE-TRANSFER INTO HIGHLY-PURIFIED CD34+THY-1+LIN-HUMAN PERIPHERAL-BLOOD HEMATOPOIETIC STEM-CELLS**
  Kerr, W., Fraser, C., Chen, B., Kaneshima, H., Hoffman, R., Lorens, J., Caldwell, J., Nolan, G., Cohen, L., Mulligan, R. C., Mule, J.
  AMER SOC HEMATOLOGY.1994: A402–A402

- **NF-AT-AP-1 AND REL-BZIP - HYBRID VIGOR AND BINDING UNDER THE INFLUENCE** *CELL*
  Nolan, G. P.
  1994; 77 (6): 795-798

- **NF-AT COMPONENTS DEFINE A FAMILY OF TRANSCRIPTION FACTORS TARGETED IN T-CELL ACTIVATION** *NATURE*
  Northrop, J. P., Ho, S. N., Chen, L., Thomas, D. J., Timmerman, L. A., Nolan, G. P., Admon, A., Crabtree, G. R.
  1994; 369 (6480): 497-502

- **PRODUCTION OF HIGH-TITER HELPER-FREE RETROVIRUSES BY TRANSIENT TRANSFECTION** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
  Pear, W. S., Nolan, G. P., Scott, M. L., Baltimore, D.
  1993; 90 (18): 8392-8396

- **THE P65-SUBUNIT OF NF-KAPPA-B REGULATES I-KAPPA-B BY 2 DISTINCT MECHANISMS** *GENES & DEVELOPMENT*
  Scott, M. L., Fujita, T., Liou, H. C., Nolan, G. P., Baltimore, D.
  1993; 7 (7A): 1266-1276

- **THE CANDIDATE PROTOONCOGENE BCL-3 ENCODES A TRANSCRIPTIONAL COACTIVATOR THAT ACTIVATES THROUGH NF-KAPPA-B P50 HOMODIMERS** *GENES & DEVELOPMENT*
  Fujita, T., Nolan, G. P., Liou, H. C., Scott, M. L., Baltimore, D.
  1993; 7 (7B): 1354-1363

- **THE BCL-3 PROTOONCOGENE ENCODES A NUCLEAR I-KAPPA-B-LIKE MOLECULE THAT PREFERENTIALLY INTERACTS WITH NF-KAPPA-B P50 AND P52 IN A PHOSPHORYLATION-DEPENDENT MANNER** *MOLECULAR AND CELLULAR BIOLOGY*
  Nolan, G. P., Fujita, T., Bhatia, K., HUPPI, C., Liou, H. C., Scott, M. L., Baltimore, D.
  1993; 13 (6): 3557-3566

- **THE NF-KAPPA-B P50 PRECURSOR, P105, CONTAINS AN INTERNAL I-KAPPA-B-LIKE INHIBITOR THAT PREFERENTIALLY INHIBITS P50** *EMBO JOURNAL*
  Liou, H. C., Nolan, G. P., Ghosh, S., Fujita, T., Baltimore, D.
  1992; 11 (8): 3003-3009

- **INDEPENDENT MODES OF TRANSCRIPTIONAL ACTIVATION BY THE P50-SUBUNIT AND P65-SUBUNIT OF NF-KAPPA-B** *GENES & DEVELOPMENT*
  Fujita, T., Nolan, G. P., Ghosh, S., Baltimore, D.
  1992; 6 (5): 775-787
- **The inhibitory ankyrin and activator Rel proteins.** *Current opinion in genetics & development*
  Nolan, G. P., Baltimore, D.
  1992; 2 (2): 211-220
- **DNA-BINDING AND I-KAPPA-B INHIBITION OF THE CLONED P65 SUBUNIT OF NF-KAPPA-B, A REL-RELATED POLYPEPTIDE** *CELL*
  Nolan, G. P., Ghosh, S., Liou, H. C., Tempst, P., Baltimore, D.
  1991; 64 (5): 961-969
- **WHOLE ANIMAL-CELL SORTING OF DROSOPHILA EMBRYOS** *SCIENCE*
  Krasnow, M. A., Cumberledge, S., Manning, G., Herzenberg, L. A., Nolan, G. P.
  1991; 251 (4989): 81-85
- **Use of Escherichiu coli (E. coli) lacZ (ß-Galactosidase) as a Reporter Gene.** *Methods in molecular biology (Clifton, N.J.)*
  Macgregor, G. R., Nolan, G. P., Fiering, S., Roederer, M., Herzenberg, L. A.
  1991; 7: 217-235
- **IMPROVED FACS-GAL - FLOW CYTOMETRIC ANALYSIS AND SORTING OF VIABLE EUKARYOTIC CELLS EXPRESSING REPORTER GENE CONSTRUCTS** *CYTOMETRY*
  Fiering, S. N., Roederer, M., Nolan, G. P., Micklem, D. R., Parks, D. R., Herzenberg, L. A.
  1991; 12 (4): 291-301
- **INSITU DETECTION OF STAGE-SPECIFIC GENES AND ENHANCERS IN B-CELL DIFFERENTIATION VIA GENE-SEARCH RETROVIRUSES** *3RD INTERNATIONAL CONF ON LYMPHOCYTE ACTIVATION IMMUNE REGULATION*
  Kerr, W. G., Nolan, G. P., JOHNSEN, J. B., Herzenberg, L. A.
  PLENUM PRESS DIV PLENUM PUBLISHING CORP.1991: 187–200
- **SINGLE CELL ASSAY OF A TRANSCRIPTION FACTOR REVEALS A THRESHOLD IN TRANSCRIPTION ACTIVATED BY SIGNALS EMANATING FROM THE T-CELL ANTIGEN RECEPTOR** *GENES & DEVELOPMENT*
  Fiering, S., Northrop, J. P., Nolan, G. P., Mattila, P. S., Crabtree, G. R., Herzenberg, L. A.
  1990; 4 (10): 1823-1834
- **CLONING OF THE P50 DNA-BINDING SUBUNIT OF NF-KAPPA-B - HOMOLOGY TO REL AND DORSAL** *CELL*
  Ghosh, S., Gifford, A. M., RIVIERE, L. R., Tempst, P., Nolan, G. P., Baltimore, D.
  1990; 62 (5): 1019-1029
- **A NOVEL FLUORESCENCE-BASED SYSTEM FOR ASSAYING AND SEPARATING LIVE CELLS ACCORDING TO VDJ RECOMBINASE ACTIVITY** *MOLECULAR AND CELLULAR BIOLOGY*
  Yancopoulos, G. D., Nolan, G. P., Pollock, R., Prockop, S., LI, S. C., Herzenberg, L. A., Alt, F. W.
  1990; 10 (4): 1697-1704
- **INSITU DETECTION OF TRANSCRIPTIONALLY ACTIVE CHROMATIN AND GENETIC REGULATORY ELEMENTS IN INDIVIDUAL VIABLE MAMMALIAN-CELLS** *IMMUNOLOGY*
  Kerr, W. G., Nolan, G. P., Herzenberg, L. A.
  1989: 74-79
- **TRANSCRIPTIONALLY DEFECTIVE RETROVIRUSES CONTAINING LACZ FOR THE INSITU DETECTION OF ENDOGENOUS GENES AND DEVELOPMENTALLY REGULATED CHROMATIN** *3RD SYMP ON IMMUNOLOGICAL RECOGNITION*
  Kerr, W. G., Nolan, G. P., SERAFINI, A. T., Herzenberg, L. A.
  COLD SPRING HARBOR LABORATORY PRESS.1989: 767–776
- **TRANSCRIPTIONALLY DEFECTIVE RETROVIRUSES CONTAINING LACZ FOR THE INSITU DETECTION OF ENDOGENOUS GENES AND DEVELOPMENTALLY REGULATED CHROMATIN** *COLD SPRING HARBOR SYMPOSIA ON QUANTITATIVE BIOLOGY*
  Kerr, W. G., Nolan, G. P., SERAFINI, A. T., Herzenberg, L. A.
  1989; 54: 767-776

- **FLUORESCENCE-ACTIVATED CELL ANALYSIS AND SORTING OF VIABLE MAMMALIAN-CELLS BASED ON BETA-D-GALACTOSIDASE ACTIVITY AFTER TRANSDUCTION OF ESCHERICHIA-COLI LACZ** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
  Nolan, G. P., Fiering, S., Nicolas, J. F., Herzenberg, L. A.
  1988; 85 (8): 2603-2607

- **ISOLATION AND CHARACTERIZATION OF THE GENE FOR THE MURINE T-CELL DIFFERENTIATION ANTIGEN AND IMMUNOGLOBULIN-RELATED MOLECULE, LYT-2** *NUCLEIC ACIDS RESEARCH*
  Nakauchi, H., Tagawa, M., Nolan, G. P., Herzenberg, L. A.
  1987; 15 (10): 4337-4347

- **FORMAL PROOF THAT DIFFERENT-SIZE LYT-2 POLYPEPTIDES ARISE FROM DIFFERENTIAL SPLICING AND POSTTRANSCRIPTIONAL REGULATION** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
  Tagawa, M., Nakauchi, H., Herzenberg, L. A., Nolan, G. P.
  1986; 83 (10): 3422-3426

- **MOLECULAR-CLONING OF LYT-2, A MEMBRANE GLYCOPROTEIN MARKING A SUBSET OF MOUSE LYMPHOCYTES-T - MOLECULAR HOMOLOGY TO ITS HUMAN COUNTERPART, LEU-2/T8, AND TO IMMUNOGLOBULIN VARIABLE REGIONS** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
  Nakauchi, H., Nolan, G. P., Hsu, C., Huang, H. S., Kavathas, P., Herzenberg, L. A.
  1985; 82 (15): 5126-5130

- **MOLECULAR-WEIGHT DETERMINATION PROGRAM** *NUCLEIC ACIDS RESEARCH*
  Maina, C. V., Nolan, G. P., Szalay, A. A.
  1984; 12 (1): 695-702

- **PLASMID MAPPING COMPUTER-PROGRAM** *NUCLEIC ACIDS RESEARCH*
  Nolan, G. P., Maina, C. V., Szalay, A. A.
  1984; 12 (1): 717-729