Stanford

Alex Gitlin

Instructor, Pathology

CLINICAL OFFICES

- **Pathology**

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Bio

BIO

Alex Gitlin, M.D., Ph.D. is an Instructor in the Department of Pathology at Stanford University School of Medicine. Prior to Stanford, Alex received his M.D. from Weill Cornell Medicine (2017) and his Ph.D. from Rockefeller University (2016) as part of the Weill Cornell/Sloan-Kettering/Rockefeller, Tri-Institutional M.D.-Ph.D. program. During his graduate training, Alex worked on the cellular and molecular mechanisms underlying germinal center reactions and the formation of long-lived humoral immunity. His work helped elucidate the mechanisms by which CD4+ T cells induce selective clonal expansion of germinal center B cells during immune responses. Currently, Alex's clinical and research interests lie in understanding the molecular basis of inflammatory immune responses in the context of normal and genetically immunodeficient states.

CLINICAL FOCUS

- Pathology

ACADEMIC APPOINTMENTS

- Instructor, Pathology

HONORS AND AWARDS

- Mentored Clinical Scientist Research Career Development Award (K08), NIH (2021-)
- Harold M. Weintraub Graduate Student Award, Fred Hutchinson Cancer Research Center (2016)
- Ruth L. Kirchstein National Research Service (F30), National Institutes of Allergy and Infectious Diseases, NIH (2014-2017)
- Herman L. Jacobius Award for Excellence in Pathology, Weill Cornell Medicine (2017)
- Medical Scientist Training Program, NIH (2009-2017)

PROFESSIONAL EDUCATION

- Residency: Stanford University Department of Pathology (2020) CA
- Medical Education: Weill Cornell Medical College (2017) NY
- Ph.D., The Rockefeller University , Immunology (2016)

- M.D., Weill Cornell Medicine , Medicine (2017)
- A.B., Harvard College , Chemistry & Physics (2009)

Publications

PUBLICATIONS

- **Integration of innate immune signaling by caspase-8 cleavage of N4BP1.** *Nature*
  Gitlin, A. D., Heger, K. n., Schubert, A. F., Reja, R. n., Yan, D. n., Pham, V. C., Suto, E. n., Zhang, J. n., Kwon, Y. C., Freund, E. C., Kang, J. n., Pham, A. n., Caothien, et al
  2020
- **Independent Roles of Switching and Hypermutation in the Development and Persistence of B Lymphocyte Memory.** *Immunity*
  Gitlin, A. D., von Boehmer, L. n., Gazumyan, A. n., Shulman, Z. n., Oliveira, T. Y., Nussenzweig, M. C.
  2016; 44 (4): 769–81
- **HUMORAL IMMUNITY. T cell help controls the speed of the cell cycle in germinal center B cells.** *Science (New York, N.Y.)*
  Gitlin, A. D., Mayer, C. T., Oliveira, T. Y., Shulman, Z. n., Jones, M. J., Koren, A. n., Nussenzweig, M. C.
  2015; 349 (6248): 643–46
- **Immunology: Fifty years of B lymphocytes.** *Nature*
  Gitlin, A. D., Nussenzweig, M. C.
  2015; 517 (7533): 139–41
- **Clonal selection in the germinal centre by regulated proliferation and hypermutation.** *Nature*
  Gitlin, A. D., Shulman, Z. n., Nussenzweig, M. C.
  2014; 509 (7502): 637–40
- **Squalene-based adjuvants stimulate CD8 T cell, but not antibody responses, through a RIPK3-dependent pathway.** *eLife*
  Kim, E. H., Woodruff, M. C., Grigoryan, L., Maier, B., Lee, S. H., Mandal, P., Cortese, M., Natrajan, M. S., Ravindran, R., Ma, H., Merad, M., Gitlin, A. D., Mocarski, et al
  2020; 9
- **ICAMs support B cell interactions with T follicular helper cells and promote clonal selection.** *The Journal of experimental medicine*
  Zaretsky, I. n., Atrakchi, O. n., Mazor, R. D., Stoler-Barak, L. n., Biram, A. n., Feigelson, S. W., Gitlin, A. D., Engelhardt, B. n., Shulman, Z. n.
  2017; 214 (11): 3435–48
- **The microanatomic segregation of selection by apoptosis in the germinal center.** *Science (New York, N.Y.)*
  Mayer, C. T., Gazumyan, A. n., Kara, E. E., Gitlin, A. D., Golijanin, J. n., Viant, C. n., Pai, J. n., Oliveira, T. Y., Wang, Q. n., Escolano, A. n., Medina-Ramirez, M. n., Sanders, R. W., Nussenzweig, et al
  2017; 358 (6360)
- **Design and crystal structure of a native-like HIV-1 envelope trimer that engages multiple broadly neutralizing antibody precursors in vivo.** *The Journal of experimental medicine*
  Medina-Ramírez, M. n., Garces, F. n., Escolano, A. n., Skog, P. n., de Taeye, S. W., Del Moral-Sanchez, I. n., McGuire, A. T., Yasmeen, A. n., Behrens, A. J., Ozorowski, G. n., van den Kerkhof, T. L., Freund, N. T., Dosenovic, et al
  2017; 214 (9): 2573–90
- **Sequencing and cloning of antigen-specific antibodies from mouse memory B cells.** *Nature protocols*
  von Boehmer, L. n., Liu, C. n., Ackerman, S. n., Gitlin, A. D., Wang, Q. n., Gazumyan, A. n., Nussenzweig, M. C.
  2016; 11 (10): 1908–23
- **HIV Vaccine Design to Target Germline Precursors of Glycan-Dependent Broadly Neutralizing Antibodies.** *Immunity*
  Steichen, J. M., Kulp, D. W., Tokatlian, T. n., Escolano, A. n., Dosenovic, P. n., Stanfield, R. L., McCoy, L. E., Ozorowski, G. n., Hu, X. n., Kalyuzhniy, O. n., Briney, B. n., Schiffner, T. n., Garces, et al
  2016; 45 (3): 483–96
- **Sequential Immunization Elicits Broadly Neutralizing Anti-HIV-1 Antibodies in Ig Knockin Mice.** *Cell*
  Escolano, A. n., Steichen, J. M., Dosenovic, P. n., Kulp, D. W., Golijanin, J. n., Sok, D. n., Freund, N. T., Gitlin, A. D., Oliveira, T. n., Araki, T. n., Lowe, S. n., Chen, S. T., Heinemann, et al

2016; 166 (6): 1445–58.e12

- **Specifically modified Env immunogens activate B-cell precursors of broadly neutralizing HIV-1 antibodies in transgenic mice.** *Nature communications*
  McGuire, A. T., Gray, M. D., Dosenovic, P. n., Gitlin, A. D., Freund, N. T., Petersen, J. n., Correnti, C. n., Johnsen, W. n., Kegel, R. n., Stuart, A. B., Glenn, J. n., Seaman, M. S., Schief, et al
  2016; 7: 10618

- **Immunization for HIV-1 Broadly Neutralizing Antibodies in Human Ig Knockin Mice.** *Cell*
  Dosenovic, P. n., von Boehmer, L. n., Escolano, A. n., Jardine, J. n., Freund, N. T., Gitlin, A. D., McGuire, A. T., Kulp, D. W., Oliveira, T. n., Scharf, L. n., Pietzsch, J. n., Gray, M. D., Cupo, et al
  2015; 161 (7): 1505–15

- **Dynamic signaling by T follicular helper cells during germinal center B cell selection.** *Science (New York, N.Y.)*
  Shulman, Z. n., Gitlin, A. D., Weinstein, J. S., Lainez, B. n., Esplugues, E. n., Flavell, R. A., Craft, J. E., Nussenzweig, M. C.
  2014; 345 (6200): 1058–62

- **HIV-1 suppression and durable control by combining single broadly neutralizing antibodies and antiretroviral drugs in humanized mice.** *Proceedings of the National Academy of Sciences of the United States of America*
  Horwitz, J. A., Halper-Stromberg, A. n., Mouquet, H. n., Gitlin, A. D., Tretiakova, A. n., Eisenreich, T. R., Malbec, M. n., Gravemann, S. n., Billerbeck, E. n., Dorner, M. n., Büning, H. n., Schwartz, O. n., Knops, et al
  2013; 110 (41): 16538–43

- **Fate mapping for activation-induced cytidine deaminase (AID) marks non-lymphoid cells during mouse development.** *PloS one*
  Rommel, P. C., Bosque, D. n., Gitlin, A. D., Croft, G. F., Heintz, N. n., Casellas, R. n., Nussenzweig, M. C., Kriaucionis, S. n., Robbiani, D. F.
  2013; 8 (7): e69208

- **T follicular helper cell dynamics in germinal centers.** *Science (New York, N.Y.)*
  Shulman, Z. n., Gitlin, A. D., Targ, S. n., Jankovic, M. n., Pasqual, G. n., Nussenzweig, M. C., Victora, G. D.
  2013; 341 (6146): 673–77

- **Rif1 prevents resection of DNA breaks and promotes immunoglobulin class switching.** *Science (New York, N.Y.)*
  Di Virgilio, M. n., Callen, E. n., Yamane, A. n., Zhang, W. n., Jankovic, M. n., Gitlin, A. D., Feldhahn, N. n., Resch, W. n., Oliveira, T. Y., Chait, B. T., Nussenzweig, A. n., Casellas, R. n., Robbiani, et al
  2013; 339 (6120): 711–15

- **Chromatin-targeting small molecules cause class-specific transcriptional changes in pancreatic endocrine cells.** *Proceedings of the National Academy of Sciences of the United States of America*
  Kubicek, S. n., Gilbert, J. C., Fomina-Yadlin, D. n., Gitlin, A. D., Yuan, Y. n., Wagner, F. F., Holson, E. B., Luo, T. n., Lewis, T. A., Taylor, B. n., Gupta, S. n., Shamji, A. F., Wagner, et al
  2012; 109 (14): 5364–69

- **A dynamic T cell-limited checkpoint regulates affinity-dependent B cell entry into the germinal center.** *The Journal of experimental medicine*
  Schwickert, T. A., Victora, G. D., Fooksman, D. R., Kamphorst, A. O., Mugnier, M. R., Gitlin, A. D., Dustin, M. L., Nussenzweig, M. C.
  2011; 208 (6): 1243–52