



Rory Hills

Postdoctoral Scholar, Pathology

Bio

BIO

I work at the intersection of protein engineering, immunology, and translational medicine. My research focuses on building generalizable molecular tools to better measure and manipulate complex human disease. At Stanford, I am developing modular antibody platforms that enable high-resolution, spatial analysis of cancer and immune systems in intact tissue. I previously trained at Oxford and Cambridge, where I worked on next-generation vaccine platforms with collaborators across academia and industry.

HONORS AND AWARDS

- Stanford School of Medicine Dean's Postdoctoral Fellowship, Stanford School of Medicine
- Rhodes Scholarship, Rhodes Trust

STANFORD ADVISORS

- Sean Bendall, Postdoctoral Faculty Sponsor

Publications

PUBLICATIONS

- **Proactive vaccination using multiviral Quartet Nanocages to elicit broad anti-coronavirus responses.** *Nature nanotechnology*
Hills, R. A., Tan, T. K., Cohen, A. A., Keefe, J. R., Keeble, A. H., Gnanapragasam, P. N., Storm, K. N., Rorick, A. V., West, A. P., Hill, M. L., Liu, S., Gilbert-Jaramillo, J., Afzal, et al
2024; 19 (8): 1216-1223
- **Computationally designed haemagglutinin with nanocage plug-and-display elicits pan-H5 influenza vaccine responses.** *Emerging microbes & infections*
Huang, C. Q., Hills, R. A., Carnell, G. W., Vishwanath, S., Aguinam, E. T., Chan, A. C., Palmer, P., O'Reilly, L., Tonks, P., Temperton, N., Frost, S. D., Tiley, L. S., Howarth, et al
2025; 14 (1): 2511132
- **mRNA delivery of genetically encoded mosaic-8 pan-sarbecovirus RBD vaccines.** *bioRxiv : the preprint server for biology*
Cohen, A. A., Keefe, J. R., Manasyan, L., Madireddy, I., Fils, A. I., Dam, K. A., Stober, H. E., Hills, R. A., Moon, W. J., Lin, P. J., Howarth, M. R., Hoffmann, M. A., Bjorkman, et al
2025
- **Mpox multiprotein virus-like nanoparticle vaccine induces neutralizing and protective antibodies in mice and non-human primates.** *Nature communications*
Belghith, A. A., Cotter, C. A., Ignacio, M. A., Earl, P. L., Hills, R. A., Howarth, M. R., Yee, D. S., Brenchley, J. M., Moss, B.
2025; 16 (1): 4726
- **Structural basis for a conserved neutralization epitope on the receptor-binding domain of SARS-CoV-2** *NATURE COMMUNICATIONS*

Huang, K. A., Chen, X., Mohapatra, A., Nguyen, H., Schimanski, L., Tan, T., Rijal, P., Vester, S. K. K., Hills, R. A. A., Howarth, M., Keeffe, J. R. R., Cohen, A. A. A., Kakutani, et al
2023; 14 (1): 311

- **SpySwitch enables pH- or heat-responsive capture and release for plug-and-display nanoassembly.** *Nature communications*

Vester, S. K., Rahikainen, R., Khairil Anuar, I. N., Hills, R. A., Tan, T. K., Howarth, M.
2022; 13 (1): 3714

- **Metabolism of a hybrid algal galactan by members of the human gut microbiome.** *Nature chemical biology*

Robb, C. S., Hobbs, J. K., Pluvinae, B., Reintjes, G., Klassen, L., Monteith, S., Giljan, G., Amundsen, C., Vickers, C., Hettle, A. G., Hills, R., , Xing, X., et al
2022; 18 (5): 501-510

- **Virus-like particles against infectious disease and cancer: guidance for the nano-architect.** *Current opinion in biotechnology*

Hills, R. A., Howarth, M.
2022; 73: 346-354

- **Implementing an integrated multi-technology platform for drug checking: Social, scientific, and technological considerations.** *Drug testing and analysis*

Wallace, B., Hills, R., Rothwell, J., Kumar, D., Garber, I., van Roode, T., Larnder, A., Pagan, F., Aasen, J., Weatherston, J., Gozdziński, L., Ramsay, M., Burek, et al
2021; 13 (4): 734-746