



Marie Hollenhorst, MD, PhD

Basic Life Science Research Associate, Sarafan ChEM-H

Bio

BIO

Dr. Hollenhorst is a physician and scientist with expertise in non-malignant hematology, transfusion medicine, and chemical biology. Dr. Hollenhorst values the one-on-one relationships that she forms with her patients, and strives to deliver the highest quality of care for individuals with blood diseases. Her experience caring for patients drives her to ask scientific questions in the laboratory, where she aims to bring a chemical approach to the study of non-malignant blood disease.

Dr. Hollenhorst pursued combined MD and PhD training at Harvard University, where she received a PhD in Chemical Biology under the mentorship of Professor Christopher T Walsh. She subsequently completed a residency in Internal Medicine at Brigham and Women's Hospital, a fellowship in Transfusion Medicine at Harvard Medical School, and a fellowship in Hematology at Stanford.

Dr. Hollenhorst has an interest in the biology of platelets, which are cellular fragments that help the blood to maintain a healthy balance between bleeding and clotting. Working in the laboratory of Professor Carolyn Bertozzi of Stanford Chemistry, Dr. Hollenhorst is studying sugar molecules found on the surface of platelets that are important in controlling their function and lifespan.

Dr. Hollenhorst's research is supported by an NIH K99 Career Pathway to Independence in Blood Science Award for Physician-Scientists, a Stanford Chemistry, Engineering & Medicine for Human Health Physician-Scientist Fellowship, and a National Blood Foundation Early-Career Scientific Research Grant.

ACADEMIC APPOINTMENTS

- Basic Life Science Research Associate, Sarafan ChEM-H
- Member, Maternal & Child Health Research Institute (MCHRI)

HONORS AND AWARDS

- Career Pathway to Independence in Blood Science Award for Physician Scientists (K99), National Institutes of Health, National Heart Lung Blood Institute (2021-2026)
- Early-Career Scientific Research Grant, National Blood Foundation (2019-2022)
- Ruth L. Kirschstein National Research Service Award Individual Postdoctoral Fellowship (F32), National Institutes of Health, National Heart Lung Blood Institute (2019-2021)
- Physician-Scientist Research Fellowship, Stanford ChEM-H (2017-2022)
- Award for Exemplary Leadership in Coordinating the MD/PhD-LHB Grand Rounds, Harvard-MIT MD/PhD Program (2010)
- Certificate of Distinction in Teaching (Course: Chemistry 27, Organic Chemistry of Life), Harvard University (2010)
- Fox Award for the Most Outstanding Undergraduate in the Department of Biological Sciences, Stanford University (2005)

PROFESSIONAL EDUCATION

- Board Certification, American Board of Internal Medicine , Hematology (2019)
- Hematology Fellowship, Stanford (2019)
- Transfusion Medicine Fellowship, Harvard Medical School (2017)
- Internal Medicine Residency, Brigham and Women's Hospital (2016)
- MD, Harvard Medical School (Harvard-MIT Health Sciences and Technology) (2013)
- PhD, Harvard University , Chemical Biology (2011)

Teaching

GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Hematology (Fellowship Program)
- Transfusion Medicine (Fellowship Program)

Publications

PUBLICATIONS

- **Dr Judith Graham Pool and the development of cryoprecipitate.** *Transfusion*
Swenson, E. n., Hollenhorst, M. A.
2021
- **Active surveillance of serious adverse events following transfusion of COVID-19 convalescent plasma.** *Transfusion*
Swenson, E., Wong, L. K., Jhaveri, P., Weng, Y., Kappagoda, S., Pandey, S., Pritchard, A., Rogers, A., Ruoss, S., Subramanian, A., Shan, H., Hollenhorst, M.
2021
- **Bridging the Divide: Student Grand Rounds at the Interface of Basic Science and Clinical Medicine.** *Academic medicine : journal of the Association of American Medical Colleges*
Hollenhorst, M. A., Braun, D. A., Burtner, C. R., Cajigas, I., Cunningham-Bussel, A. C., Eser, P. O., Nabel, C. S., Tsai, F. D., Weeks, L. D., Michel, T., Yialamas, M. A.
2019
- **Markers of autoimmunity in immune thrombocytopenia: prevalence and prognostic significance.** *Blood advances*
Hollenhorst, M. A., Al-Samkari, H. n., Kuter, D. J.
2019; 3 (22): 3515–21
- **Clinical decision support and improved blood use in patient blood management.** *Hematology. American Society of Hematology. Education Program*
Goodnough, L. T., Hollenhorst, M. A.
2019; 2019 (1): 577–82
- **Thrombosis, Hypercoagulable States, and Anticoagulants** *PRIMARY CARE*
Hollenhorst, M. A., Battinelli, E. M.
2016; 43 (4): 619–+
- **A Head-to-Head Comparison of Eneamide and Epoxyamide Inhibitors of Glucosamine-6-Phosphate Synthase from the Dapdiamide Biosynthetic Pathway** *BIOCHEMISTRY*
Hollenhorst, M. A., Ntai, I., Badet, B., Kelleher, N. L., Walsh, C. T.
2011; 50 (19): 3859–61
- **The Nonribosomal Peptide Synthetase Enzyme DdaD Tethers N beta-Fumaramoyl-L-2,3-diaminopropionate for Fe(II)/alpha-Ketoglutarate-Dependent Epoxidation by DdaC during Dapdiamide Antibiotic Biosynthesis** *JOURNAL OF THE AMERICAN CHEMICAL SOCIETY*
Hollenhorst, M. A., Bumpus, S. B., Matthews, M. L., Bollinger, J., Kelleher, N. L., Walsh, C. T.
2010; 132 (44): 15773–81
- **The ATP-Dependent Amide Ligases DdaG and DdaF Assemble the Fumaramoyl-Dipeptide Scaffold of the Dapdiamide Antibiotics** *BIOCHEMISTRY*

Hollenhorst, M. A., Clardy, J., Walsh, C. T.

2009; 48 (43): 10467–72

- **Localized expression of an anti-TNF single-chain antibody prevents development of collagen-induced arthritis** *GENE THERAPY*

Smith, R., Turner, I. H., Hollenhorst, M., Lin, C., Levicnik, A. U., Fathman, C. G., Nolan, G. P.

2003; 10 (15): 1248-1257

- **GRAIL: An E3 ubiquitin ligase that inhibits cytokine gene transcription is expressed in anergic CD4(+) T cells** *IMMUNITY*

Anandasabapathy, N., Ford, G. S., Bloom, D., Holness, C., Paragas, V., Seroogy, C., Skrenta, H., Hollenhorst, M., Fathman, C. G., Soares, L.

2003; 18 (4): 535-547