

the daily [\(<https://thedaily.case.edu>\)](https://thedaily.case.edu)



Haima Therapeutics licenses synthetic platelet technology from Case Western Reserve University for hemostatic therapy

JUNE 3, 2020

[FEATURED \(HTTPS://THEDAILY.CASE.EDU/CATEGORY/FEATURES/FEATURED/\)](https://thedaily.case.edu/category/features/featured/)

[HEALTH & WELLNESS \(HTTPS://THEDAILY.CASE.EDU/CATEGORY/RESEARCH/HEALTH-WELLNESS/\)](https://thedaily.case.edu/category/research/health-wellness/)

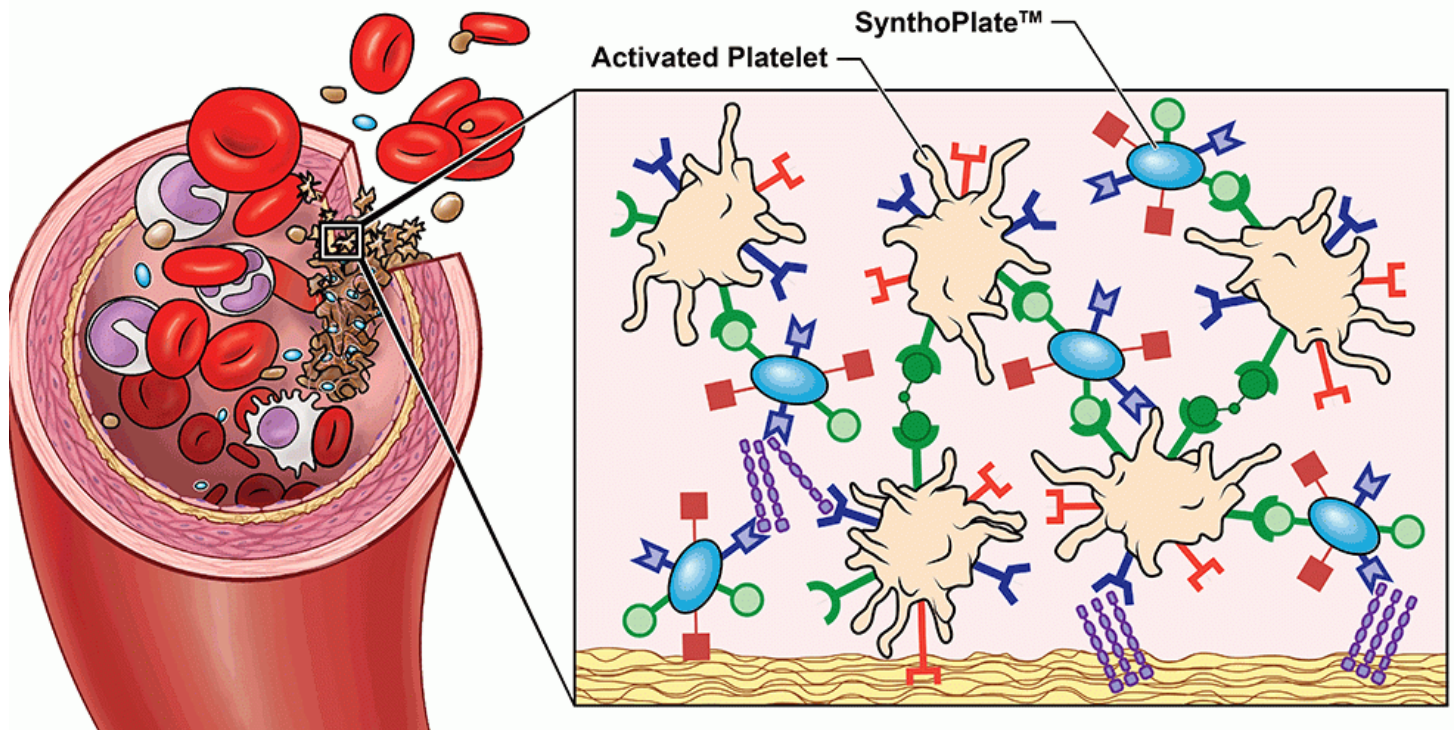
[RESEARCH \(HTTPS://THEDAILY.CASE.EDU/CATEGORY/RESEARCH/\)](https://thedaily.case.edu/category/research/)

[SCIENCE & TECH \(HTTPS://THEDAILY.CASE.EDU/CATEGORY/RESEARCH/SCIENCE-TECH/\)](https://thedaily.case.edu/category/research/science-tech/)

[UNIVERSITY NEWS \(HTTPS://THEDAILY.CASE.EDU/CATEGORY/UNIVERSITY-NEWS/\)](https://thedaily.case.edu/category/university-news/)  0

Haima Therapeutics has executed an exclusive license agreement with Case Western Reserve University to research, develop and market artificial platelet technologies to treat patients with various bleeding disorders.

The core technologies were developed in the laboratory of Professor Anirban Sen Gupta, a pioneering researcher in platelet-inspired technologies in the Department of Biomedical Engineering at the university's Case School of Engineering.



SynthoPlate is a synthetic platelet technology that can mimic natural platelets' ability to stop bleeding.

Platelets are blood cells that help the body form clots to reduce bleeding. For this reason, platelet transfusions are routinely used to prevent or treat bleeding complications in trauma, surgery and bleeding disorders. More than 2 million platelet units are transfused in the United States every year.

Unfortunately, donor platelets have a "shelf life" of only five days, leading to about 20% of platelets being discarded due to expiration. Additionally, the logistics of blood-banking, type-matching and special storage limit their use outside of major metropolitan hospital systems. As a result, roughly half of the U.S. population doesn't have convenient access to platelets.

Furthermore, blood-product availability suffers from severe logistical challenges during calamity and pandemic situations, such as the current COVID-19 scenario, where blood donations are severely affected.

Sen Gupta has developed technologies over nearly a decade that can mimic and amplify platelets' abilities to clot at the bleeding site as surrogates when natural platelet products are unavailable. The therapeutic technology can be stored as liquid, or freeze-dried powder that can be reconstituted into liquid for IV transfusion, as needed.

The lead technology that has been licensed—and is the focus of research and development by Haima—is called SynthoPlate: a platelet-inspired, injectable technology to mitigate bleeding in patients with bleeding dysfunctions after traumatic injury, in surgery or postpartum hemorrhage, and bleeding risks in patients with platelet and coagulation defects.

“We are very excited to be advancing this hemostatic product as a platelet surrogate technology when there is little-to-no access to real platelets,” said Michael Bruckman, Haima’s COO and interim CEO. “Haima was started with the intention of bringing platelet-inspired technologies to market to treat a wide variety of diseases and pathologies. Reaching an agreement to license this technology from Case Western Reserve is a critical step toward commercialization.”

“While platelets’ primary role is to control bleeding, they play a significant role in a wide array of diseases,” Sen Gupta said. “However, outside of large blood banks and trauma centers, platelet products are rarely available. This lack of access is even more prevalent in mass-casualty events and the ongoing COVID-19 pandemic. Mimicking the role that platelets play in bleeding and other diseases has been the motivation behind my laboratory’s research on platelet surrogates, and SynthoPlate is the lead product that stemmed from it.”

Sen Gupta has received funding from the Case-Coulter Translational Research Partnership, Case Western Reserve’s Council to Advance Human Health, Ohio Third Frontier Technology Validation and Start-up Fund and the National Institutes of Health’s (NIH) Center for Accelerated Innovation to conduct extensive lab testing and proof-of-concept studies with SynthoPlate. Additional studies evaluating hemostatic effect and safety are ongoing, funded by the U.S. Department of Defense (DOD).

“This is a prime example of CWRU’s leading biotechnology research addressing a vast unmet medical need,” said Stephanie Weidenbecher, senior licensing manager at the university’s Technology Transfer Office. “We are excited to build a long-term business partnership with Haima to accelerate the development of SynthoPlate.”

Since 2018, Haima has received about \$1.4 million in non-dilutive funding from the NIH, National Science Foundation and DOD to support the translational advancement of SynthoPlate.

For more information, contact Bill Lubinger at william.lubinger@case.edu (<mailto:william.lubinger@case.edu>).

[ANIRBAN SEN GUPTA \(HTTPS://THEDAILY.CASE.EDU/TAG/ANIRBAN-SEN-GUPTA/\)](https://thedaily.case.edu/tag/anirban-sen-gupta/)

[BLOOD PLATELETS \(HTTPS://THEDAILY.CASE.EDU/TAG/BLOOD-PLATELETS/\)](https://thedaily.case.edu/tag/blood-platelets/)

[HAIMA THERAPEUTICS \(HTTPS://THEDAILY.CASE.EDU/TAG/HAIMA-THERAPEUTICS/\)](https://thedaily.case.edu/tag/haima-therapeutics/)

[RELEASE \(HTTPS://THEDAILY.CASE.EDU/TAG/RELEASE/\)](https://thedaily.case.edu/tag/release/)

[SYNTHOPLATE \(HTTPS://THEDAILY.CASE.EDU/TAG/SYNTHOPLATE/\)](https://thedaily.case.edu/tag/synthoplate/)

[TECHNOLOGY TRANSFER OFFICE \(HTTPS://THEDAILY.CASE.EDU/TAG/TECHNOLOGY-TRANSFER-OFFICE/\)](https://thedaily.case.edu/tag/technology-transfer-office/)