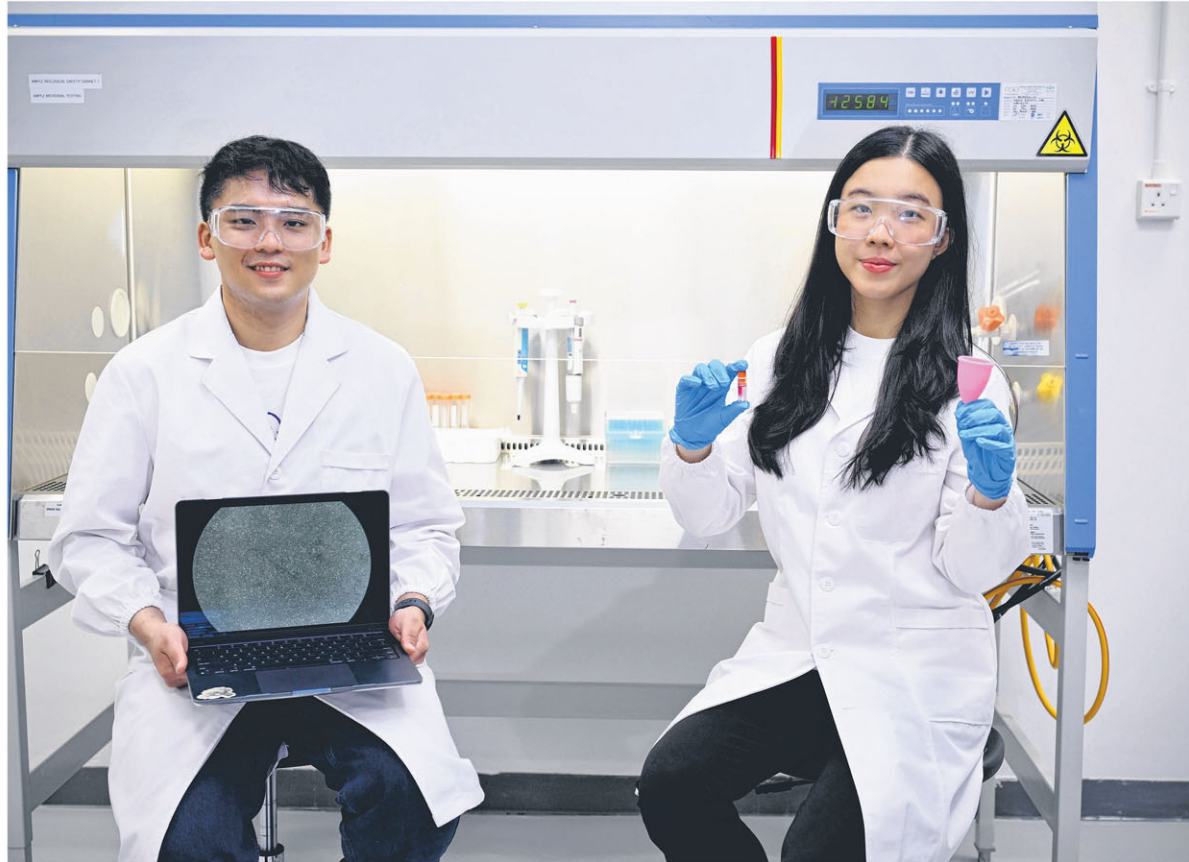


## MenSC Labs



Kyle Lao (left) and Immanuella Indradjaja co-founded MenSC Labs, which uses stem cells from menstrual blood for regenerative women's health. ST PHOTO: NG SOR LUAN

# Femtech co-founder inspired by girlfriend's periods

At 25, Kyle Lao is chief executive and co-founder of MenSC Labs, a femtech start-up with an unusual focus – it utilises stem cells from menstrual blood for regenerative women's health.

Stem cells can make more of themselves, Lao explains. When damage or disease occurs, these cells help in two ways: They release signals that reduce inflammation and nurture the body's own cells to survive and heal themselves.

In other cases, they can even turn into new cells to replace the damaged ones.

While stem cells are usually harvested from sources including bone marrow, blood and the umbilical cord, menstrual blood is as yet an untapped source, says Lao, a recent graduate from the National University of Singapore (NUS) with a bachelor of science degree in business analytics.

It is plentiful, does not require surgical intervention to harvest and poses fewer ethical issues because the company obtains informed consent from donors and is transparent about its data handling.

Unlike embryonic stem cells, there are fewer concerns about embryo management as well.

Lao became curious about menstruation after he met his girlfriend of four years, who is aged 25 and works in the mediation industry.

She found period-tracking apps frustrating because her cycle was irregular, which led to some anxiety as she could not predict her periods.

"Seeing how she didn't have the answers, I wanted to understand

more about the space," says Lao.

In 2024, he met his co-founder Immanuella Indradjaja, 22, during a year-long internship at a biotechnology company in Silicon Valley in the United States. They were there as part of the NUS Overseas College programme that gives entrepreneurial undergraduates overseas exposure to start-ups.

During a visit to a hackathon in the area, they met an American small business owner, who mooted the idea of using menstrual blood as a source of stem cells. The pair teamed up with her to present the idea and won second place in the competition.

They continued to work on the concept and later got in touch with a research team from Australia, which had discovered adult stem cells in the endometrium (the lining in the uterus) in 2007.

Lao and Immanuella, who is Indonesian and has a background in life sciences, started MenSC Labs in November 2024. Its name is a scientific acronym for menstrual-derived stem cells.

Immanuella says her interest stemmed from seeing the gaps in healthcare solutions for women.

"In the past five to 10 years, women's health used to be a niche with few solutions, like simple period-tracking apps. Today, we're seeing a greater shift towards recognising it as a critical part of healthcare," she adds.

At MenSC Labs, women recruited through social media and word of mouth donate their menstrual blood using a collection kit.

The kit includes a menstrual

cup to collect the samples – usually on the second and third day of their cycle – test tubes to pour the samples into, an ice pack and a vial containing a mixture of anticoagulants and antibiotics that keeps the blood from clotting and prevents bacterial contamination.

The samples are couriered to or dropped off at the laboratory where the stem cells are isolated and cultured, or grown. Each sample typically has about 2ml to 3ml of blood, which yields a good number of cells, Lao says.

The company has about 70 active donors comprising mainly students, teaching staff and researchers in NUS as MenSC Labs is based in a laboratory there. The majority are in their early to mid-20s and they are reimbursed \$60 a sample. There is a waiting list of over 300 women.

After quality control tests, the cultured stem cells are sold as off-the-shelf cells to researchers in Australia and Singapore, who use them in lab work. Donors are informed of where their samples are used.

Its research-use products are currently used by over 10 research labs in Singapore, Australia and the US.

Beyond this, MenSC Labs is developing its own clinical programme and hopes to work with clinicians and researchers on regenerative medicine treatments for women's health.

The Gen Z founders have raised just under \$100,000 in funding so far. This includes a \$10,000 grant from NUS Enterprise and another \$50,000 from Enterprise Singapore's Startup

SG Founder Programme. The rest came from family members and friends.

They are hoping to raise more pre-seed funding, despite difficulties, partly because menstruation remains a taboo topic.

"A big part of our business model is trying to give back to women's health and to raise awareness of it. People always get a shock when they hear about us. Some may call it a waste product, but that's just a perception. It's part of a biological process," Lao says.

However, others are intrigued by the concept and say they hope his start-up's work will help unravel the prevailing stigma around menstrual cycles, premenstrual syndrome and sanitary pads, he adds.

Strangers have come up to tell him: "Hey, you're doing great work."

The company is launching a menstrual blood analysis service, believed to be the first of its kind in Singapore, although a few companies in the US also offer this.

This test helps clinicians screen menstrual fluid for specific conditions like endometriosis and polycystic ovary syndrome, a condition formerly called polycystic ovary syndrome, among other uses.

But in the longer term, Lao and Immanuella have a far loftier goal – potentially helping to develop treatments for conditions such as Asherman's Syndrome, which forms scar tissue in the uterus, and premature ovarian insufficiency, where the ovaries stop working before a woman hits age 40.

He says: "We want to be one of the first companies to develop regenerative treatments for women's health. That means we want to understand how to use the stem cells to cure some women-specific diseases."

Stephanie Yeo