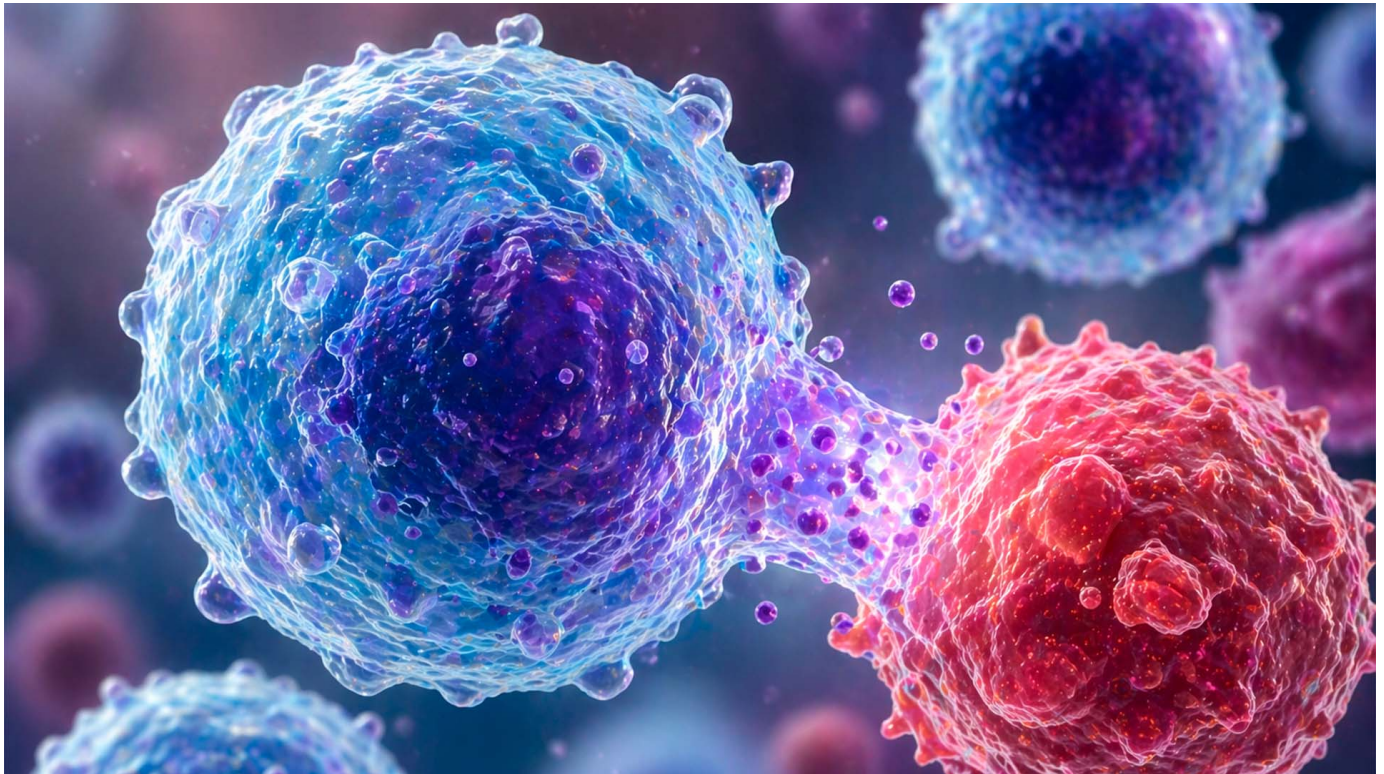


Researching new methods to grow cancer-fighting cells



Their work focuses on making innovative cancer treatments more accessible.

07/07/2026

ChatGPT

A doctor, a graduate, and students from [Tec de Monterrey's Toluca campus](#) are developing research focused on optimizing **NK cell** cultures, an **immunotherapy** alternative to attack **diseased cells** in the **body**.

NK cells, or **Natural Killer cells**, have potential applications in **personalized medicine**.

The Tec Toluca team is looking for more **accessible** ways to develop or grow **NK cells**, a type of **immune system cell** capable of finding and destroying **tumor cells**.

This team is made up of Dr. **Víctor Campos**, graduate student **Daniela Simental**, and students **Ivana López** and **Carlos Peralta**.

Infographic about the NK cell-based project. Photo: ChatGTP



*"The project stems from the need to find **alternatives** that make innovative treatments accessible to more people.*

*"Our goal is to simplify certain processes without compromising **cell quality**," Ivana explained.*

"We want to find alternatives that make innovative treatments accessible to more people."

Prior to this phase, the team worked on a major challenge in the field: achieving efficient **NK cell** proliferation in the laboratory.

As part of those studies, they assessed different culture conditions and found it possible to substitute **fetal bovine serum**, a conventional animal-derived reagent,

with patient-derived **autologous human plasma**.

A cheaper, simpler process

The results demonstrated that this modification was not only viable but also enhanced **cell proliferation** and **mitigated risks** associated with animal-derived components.

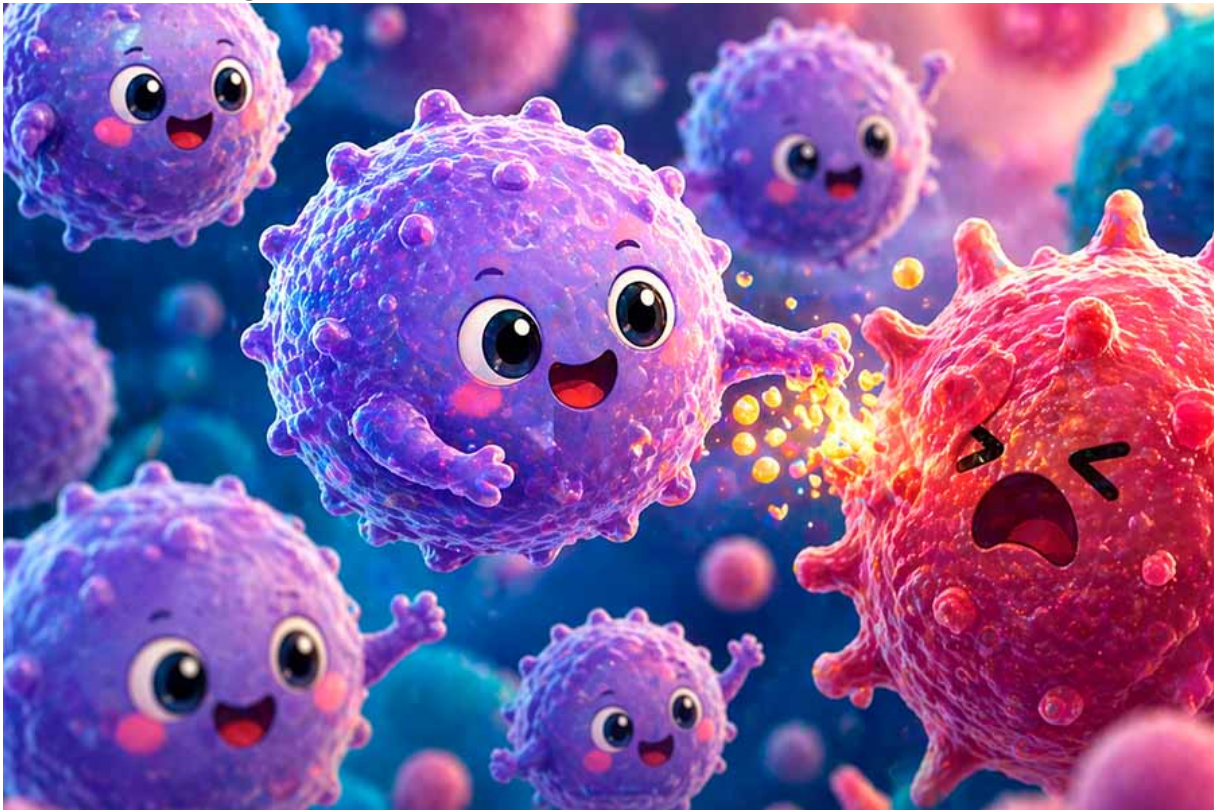
*“Previous findings allowed us to ask new questions. Since we had already enhanced **cell proliferation**, we wanted to know if we could also simplify the process to make it both **more affordable** and **easier to implement**,”* said the student.

To answer this question, the team ran experiments using blood samples, isolating the **cells** needed for cultivation under different conditions.

During the study, they analyzed the role of elements such as **autologous plasma** and **EDTA**(ethylenediaminetetraacetic acid), a chemical commonly used during cell extraction.

The findings indicated that, while **plasma** promotes faster proliferation during the initial stages, it is not essential for proper NK cell development.

Illustrative image of how NK or Natural Killer cells work. Photo: ChatGPT



They also observed that eliminating **EDTA** yields a greater quantity of cells without compromising their viability or structure.

*“We found that we can simplify the protocol while maintaining the **quality** of the culture. This could make it easier to replicate in **laboratories** with more basic **infrastructure**,”* Ivana said.

According to the student, subsequent steps will focus on confirming that **cells cultured** under these new conditions retain their ability to recognize and **combat diseases**, a critical requirement for future clinical application.

The results to date suggest that developing simpler, **more cost-effective** cell-culture processes is possible, which could expand research and development **opportunities** in **personalized medicine**.

*“Subsequent phases will aim to confirm that the **cells** retain their **therapeutic function**. That will be an important step in evaluating their potential for clinical applications,”* she concluded.

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