# New therapy could help chronic myeloid leukemia patients live drug-free

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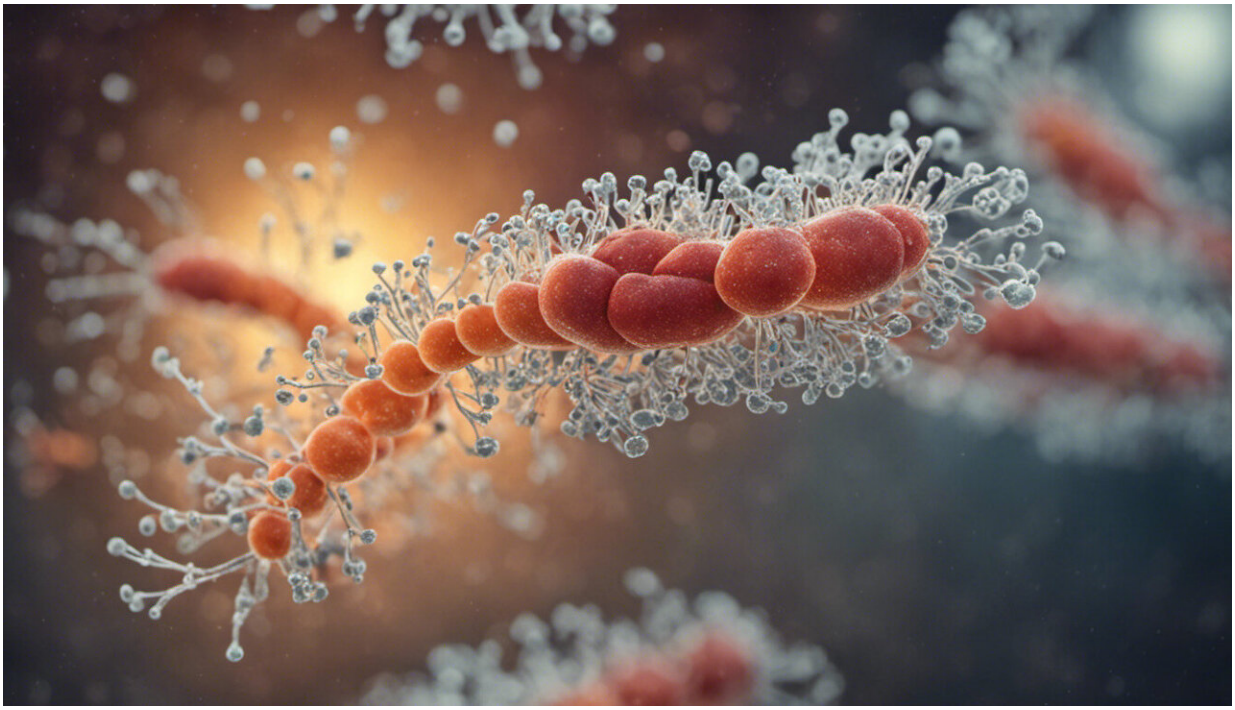

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The latest research from SAHMRI and the University of Adelaide has discovered a potential new therapy for chronic myeloid leukemia (CML) patients who've achieved excellent results from current treatment and are hoping to live life medication free.

The study, co-led by Dr. Yazad Irani and published in the journal *Blood Advances*, is the first comprehensive evaluation of immune checkpoint receptors in CML patients at the time of stopping their usual therapy with tyrosine kinase inhibitors, which specifically target leukemia cells.

"This finding provides a crucial stepping-stone for more CML patients to progress towards getting off drugs completely," Dr. Irani said.

The findings highlight the key role a protein known as "TIM-3" plays in CML relapse. TIM-3 is responsible for regulating the activity of T cells, which help identify and destroy cancer cells.

High levels of TIM-3 were linked to decreased immune function and increased risk of relapse in CML patients who attempted to stop their tyrosine kinase inhibitors. Dr. Irani says blocking the TIM-3 protein may be the missing piece of the puzzle.

"Some CML patients are able to successfully remain off-drug and cancer-free after stopping therapy, while others experience relapse and we do not fully understand why," Dr. Irani said.

"We found patients who relapsed had higher levels of TIM-3 inhibiting immune cells, compared to patients who remained off-drug. If we can block TIM-3 protein from functioning, more patients may be able to live drug-free."

Researchers are optimistic these findings will inspire further work in the field and lead to what could effectively become a long-term cure for CML.

The next step will involve clinical trials to test the efficacy of blocking TIM-3 in humans.

**More information:** Yazad Darius Irani et al, Association of TIM-3 checkpoint receptor expression on T cells with treatment-free remission in chronic myeloid leukemia, *Blood Advances* (2023). DOI: 10.1182/bloodadvances.2022008854