Unlocking a targeted approach to anticancer treatment

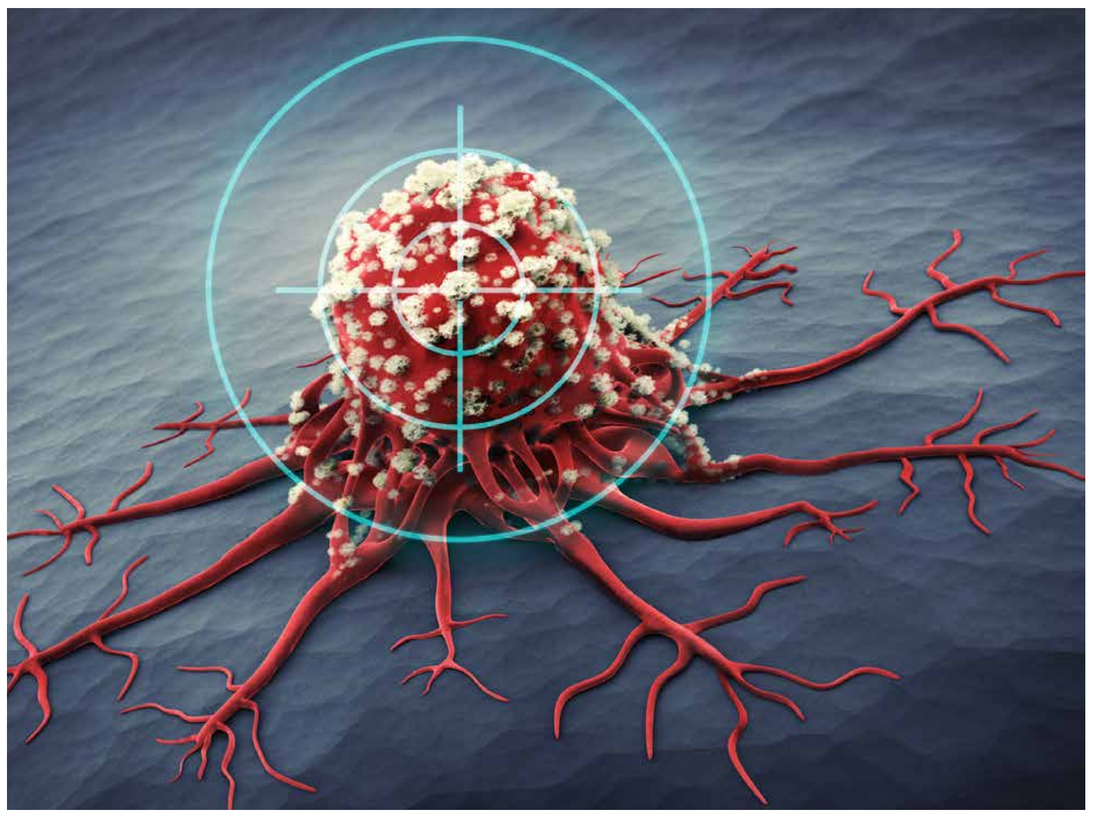
A better understanding of killer cells allows for better targeted treatment.

Dr Nish Parbhoo is a lecturer in protein biochemistry at UNISA.

Mphahlele et al., 2018. doi: 10.3390/ijms19092552.

Cancer, the fifth leading cause of death globally, is the uncontrolled growth of cells in the body. It is considered a "silent killer", and affected individuals are often traumatised with extensive and prolonged treatment.

Patients often feel left in the dark as to how exactly the treatment works. They may also feel as if they are facing the problem alone, as, unlike illnesses caused by viruses and bacteria, cancer is non-infectious. Following a cancer diagnosis, patients may also feel uncertain about the future.



Targeted cancer treatment is key to winning the battle.

"Patients' vague understanding of the disease leads to misconceptions about the treatment," says Dr Nish Parbhoo. "They need to understand why they are undergoing the treatment the doctors have prescribed. Patients just want the treatment to be effective."

By understanding how a certain target protein molecule in cancer cells looks and functions, researchers at UNISA have developed anticancer compounds that bind to the target more effectively.

"This is akin to developing a better key to fit the lock."

The compounds (keys) are first designed and tested on a computer, where they are fine-tuned to fit better. A drug that binds better is more effective, so treatment time can be shortened.

"The challenge with current treatment options is using a one-size-fits-all approach. This renders them largely ineffective. Our research aims to enhance current treatment strategies and develop new and more effective compounds."

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