

## VYT 2025 Entry #8

### Empowering body's defence system to fight cancer's toughest challenges

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[Start transcript]

What if I tell you that we have 25% chance of getting a cancer diagnosis in our lifetime?

Imagine being told that there is a treatment, but it may not work for you. This can happen due to having an unresponsive defence system or resistance to treatments.

In our immune system, we have specialised cells called macrophages. They are constantly playing tug-of-war with cancer cells, where eventually cancer cells blackmail them into working against us.

We are learning that cancer cells manipulate macrophages through a special protein called HCK. When we removed this protein from mice, macrophages remained active and killed cancer.

In my research, I have identified major cellular mechanisms by which HCK alters macrophages. Our goal is to develop drugs against key pathways to influence our immune systems into being our ally. This new drug will help us deliver effective therapies for all cancer patients.

[End transcript]