

Scientists find flu killer cell in hunt for universal vaccine

By Sarah Knapton SCIENCE EDITOR

IMMUNE cells that could fight all types of influenza viruses have been discovered by scientists, raising hope for a universal vaccine that would not need to be updated annually.

Researchers from Monash University and the Peter Doherty Institute for Infection and Immunity, in Melbourne, Australia, found some "killer T" cells were able to fight all forms of the virus.

Most immune cells only target individual strains, but researchers discovered parts of the virus that were common across all types of flu. They then looked for cells in humans that could latch onto those areas.

The killer T cell identified by the scientists exists in about half of the world's population. Researchers believe they may be able to use the cells to create a vaccine to boost cell activity or retrain the immune system.

Dr Marios Koutsakos, a lead author, said: "Influenza viruses continuously

mutate to evade recognition by our immune system, and they are vastly diverse, making it nearly impossible to predict and vaccinate against the strain that will cause the next ... pandemic.

"We have identified the parts of the virus that are shared across all flu strains ... and then investigated if we could find robust responses to those viral parts in healthy humans, and influenza-infected adults and children."

Prof Katherine Kedzierska, of the Doherty Institute, said it was an exciting discovery that clearly showed killer T cells provided unprecedented immunity across all flu viruses, a key component of a potential universal vaccine.

"Influenza B immunology particularly has remained largely understudied because it doesn't have pandemic potential," she said. "However, it is a serious virus that can lead to death ... and was one of the missing pieces of the universal flu protection puzzle."

The research was published in the *Nature Immunology* journal.



Telegraph 19.2.2019