An international team of researchers has developed a way to modify the CAR T engineering process to create cells that can assist in fighting fungal infections in the lungs. In their paper published in the journal *Science Translational Medicine*, the group describes modifying the CAR T engineering process.

Chimeric antigen receptor (CAR) T cells are genetically engineered to attach to cancer cell antigens, helping the body to eliminate tumors. CAR T cells are engineered by harvesting T cells from a patient and then adding a gene receptor. Then, the CAR T cells are injected back into the same patient. CAR T cells have traditionally been engineered to fight cancer, but in this new effort, the researchers adapted the process to create CAR T cells that go after *Aspergillus fumigatus*—a type of fungus that can lead to infections in immunocompromised patients or those undergoing chemotherapy, resulting in invasive pulmonary aspergillosis. More recently, researchers have found that people with COVID-19 infections are also more susceptible to such lung infections.

The work closely mimicked the process used to create cancer-fighting CAR T cells. But instead of adding a gene receptor that targets cancer cell antigens, they added one that targets the cell wall of *A. fumigatus*.

The researchers tested their newly engineered cells first in a petri dish and found that they were able to recognize multiple strains of *A. fumigatus*. They also found that their CAR T cells were able to impede fungal growth by allowing proteins and granzyme B to escape from inside of individual fungi, thereby killing them. The researchers then tested their cells on lab mice. They found that the CAR T cells moved directly to infection sites, and in attaching to fungi, lowered fungal numbers, which in turn helped the immune system remove the infection.
The researchers suggest that T cell engineering similar to that used to treat cancer calls can also be used in other applications, such as fighting fungal infections.