

Breakthrough in dengue treatment, protection

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In the near future, it could take just one injection to temporarily protect against or treat dengue infections.

A team of scientists in Singapore and the United States has created an artificial antibody that is equally effective against all four strains, or serotypes, of the dengue virus.

American biotechnology firm Visterra has also set up a Singapore branch to develop the antibody in partnership with the Singapore Agency for Science, Technology and Research (A*Star).

Human clinical trials are expected to begin next year. The dengue virus is hard to fight because all four strains circulate in nature. When a person is infected with one serotype, their body can generate protection against that serotype but not against the others.

If they are infected later with a different serotype, they have a higher chance of developing more severe and possibly fatal symptoms.

To provide complete protection, a drug has to create an equally strong antibody response against all four serotypes, but so far this has not been achieved. Even the latest clinical trials for one potential vaccine showed mixed results against the four serotypes.

The new antibody was created by scientists at the Massachusetts Institute of Technology (MIT) in the US, the Singapore-MIT Alliance for Research and Technology, National University of Singapore (NUS), Duke-NUS Graduate Medical School, Nanyang Technological University and Visterra.

Duke-NUS' Associate Professor Ooi Eng Eong said the antibody targets a part of the dengue virus that is crucial for it to infect people.

Researchers modified an antibody found naturally in the human body, so that it is effective against all four serotypes.

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