

Single molecule may fight all kinds of viruses, IBM researchers hope

The GLP aggregated and excerpted this blog/article to reflect the diversity of news, opinion and analysis.

Finding a cure for viruses like Ebola, Zika, or even the flu is a challenging task. But a group of researchers at IBM and the Institute of Bioengineering and Nanotechnology in Singapore sought to understand what makes all viruses alike have come up with a macromolecule that may have the potential to treat multiple types of viruses and prevent them from infecting us. The work was published recently in the journal [*Macromolecules*](#).

For their study, the researchers ignored the viruses' RNA and DNA, which could be key areas to target, but because they change from virus to virus and also mutate, it's very difficult to target them successfully.

Instead, the researchers focused on glycoproteins, which sit on the outside of all viruses and attach to cells in the body, allowing the viruses to do their dirty work by infecting cells and making us sick. Using that knowledge, the researchers created a macromolecule, which is basically one giant molecule made of smaller subunits. This macromolecule has key factors that are crucial in fighting viruses. First, it's able to attract viruses towards itself using electrostatic charges. Once the virus is close, the macromolecule attaches to the virus and makes the virus unable to attach to healthy cells. Then it neutralizes the virus' acidity levels, which makes it less able to replicate.

As an alternative way to fight, the macromolecule also contains a sugar called mannose. This sugar attaches to healthy immune cells and forces them closer to the virus so that the viral infection can be eradicated more easily.

Read full, original post: [IBM creates a molecule that could destroy all viruses](#)