STRATEGIC VACCINES

The COVID pandemic is the most serious challenge to global security in our lifetime. The toll on human life and on the global economy has been devastating and is about to get worse. A recent article in Nature written by authors from Stanford Medical School and biotech Flow Pharma makes the case that the SPIKE protein, the only part of the virus targeted by all FDA-approved vaccines, could continue to develop variants indefinitely. In another article, Flow Pharma and Stanford researchers point out that animal reservoirs for COVID are another way for the virus to efficiently create variants. A select number of new variants become dominant as they find better ways to infect vaccinated and unvaccinated populations throughout the world. We are more than likely to be faced with a variant that will completely bypass the protection we now see from the currently available vaccines.

Vaccine manufacturers are developing boosters, but manufacturing and regulatory constraints make their deployment lag behind new variants that have appeared even before the first wave of boosters have been made available.

The obvious solution is to develop vaccines and therapies that target parts of the virus that are common to all variants. Viruses are made of multiple proteins, each with a different function. Some of these proteins are on the surface of the virus, others are inside. Changes in the SPIKE protein, located on the surface of the virus, are responsible for the variants that we are seeing. It turns out that one of the proteins located inside the virus, called nucleocapsid, is much more stable than SPIKE and has sections that are the same for all known variants.

So why don't the FDA-approved vaccines attack the COVID nucleocapsid virus? Antibody vaccines work best when they recognize and attack surface targets on viruses and clear viruses from the blood. But SPIKE is changing its shape, and escaping recognition by vaccine-evoked antibodies. To attack the stable proteins inside the virus, you need a second-generation vaccine, using a T-cell attack instead of relying on antibodies.

Flow Pharma is the only company with peer-reviewed literature describing a synthetic, room temperature stable second-generation vaccine platform used to develop two different vaccines providing protection from two different viruses (Ebola and COVID) based solely on attacking the nucleocapsid protein. These studies were conducted at the US National Lab in Galveston, vaccinating mice for Ebola and primates for COVID. Both studies showed protection from high doses of virus given as a challenge after vaccination. Flow Pharma has two US Army contracts to develop, test, and manufacture a vaccine for Marburg, a virus like Ebola, weaponized by foreign states. These contracts were awarded largely based on the strength of Flow Pharma's Ebola experiments conducted at the US National lab. Flow Pharma uses AI to select optimal targets on viruses for T-cell attack. This means that Flow Pharma's FlowVax platform can be used to make vaccines for many viruses by simply loading a new set of readily-made, synthetic peptide targets into the vaccine.

FLOVID-20 is Flow Pharma's second-generation vaccine and therapy for COVID. FLOVID-20 can function as both a prevention and a treatment because T-cells kill infected cells. Flow Pharma created a company in Australia to streamline clinical testing of its vaccines and is now seeking approval to begin testing FLOVID-20 there now using clinical samples of the vaccine manufactured by Oakwood labs in Cleveland Ohio.

To begin scale-up in advance of product approval, Flow Pharma created Strategic Vaccines in partnership with defense contractor M7TecGroup. Strategic Vaccines has the exclusive license for all intellectual property related to virus prevention and treatment technology developed by Flow Pharma including therapeutic applications for monoclonal antibodies relevant to Ebola, Marburg, and COVID. Strategic Vaccines has purchased large-scale manufacturing equipment for making up to one million doses/month of FLOVID-20 to support launch as a treatment for patients presenting with early-stage COVID infection.

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