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*“Harrington has been great at always helping us determine the best next step in our drug discovery process.”*

## LAYING A TRAP FOR COVID

**FOCUS:** Novel multi-target antibodies for COVID-19 infection.

In the race to address COVID-19, Dr. James Wells and his team have come up with two exciting and novel therapeutic strategies for those who have recently realized they contracted COVID, have symptoms, and are in a high-risk group.

The angiotensin-converting enzyme 2, or “ACE2 receptor”, is a protein on the surface of many cell types. The virus uses its spike proteins (the protruding bumps seen in coronavirus imagery) to bind to an ACE2 protein on the victim’s cell, thus gaining entry.

Dr. Wells’ team created a soluble, genetically-rearranged form of the ACE2 receptor itself, and used it as a decoy to block viral entry. “The virus knows how to bind to ACE2, but it can’t distinguish between

the actual ACE2 and the manufactured version,” Dr. Wells says. “Thus the virus becomes coated with this ACE2 receptor ‘trap’, preventing it from entering the cell.”

In addition, the Wells Lab made another advancement that helps prevent the virus from entering cells. The virus attaches to the ACE2 receptor thanks to an adhesive quality called affinity. Dr. Wells and his team increased that affinity by mutating the ACE2 trap, engineering it so that the virus binds more tightly to the trap.

Either of these approaches could lead to an injectable biologic able to block the COVID virus from entering, let alone infecting, human cells.

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