

READDI Fact Sheet

The Rapidly Emerging Antiviral Drug Development Initiative — READDI — is a nonprofit biotechnology company dedicated to preventing global catastrophes caused by viruses. How? By identifying the families of viruses most likely to spark the next pandemic and targeting them with broad-spectrum small molecule drugs.

READDI plays a clear, specific — and central — role in the three-pillared **pandemic preparedness effort endorsed by the G7**. Other groups work on diagnostics and vaccines. READDI develops antiviral therapeutics.

28

ACTIVE PROJECTS



130+

\$MILLION INVESTED



30

GLOBAL COLLABORATORS



Public-private solution

Effective pandemic preparedness requires a consortium approach. READDI, an associated entity of the University of North Carolina at Chapel Hill, collaborates with a global network of action-oriented professionals from academia, industry, government and philanthropy to accelerate the drug discovery and development process for medicines that work against the most dangerous families of viruses.

Ready, not reactive

The world cannot afford to be caught unprepared by the next deadly virus. In the U.S. alone, **over 1.13 million people** — more than the population of America's 10th largest city, Austin, Texas — have died as a result of COVID-19. The pandemic strained the healthcare infrastructure, weakened national security, closed schools and universities and triggered a mental health crisis. Economists put the economic toll of the COVID-19 pandemic in the U.S. **at \$14 trillion**.

The biggest enemy when a new virus emerges is time. Vaccines are vital for ending pandemics, but developing a new vaccine can take months, if not years. The first line of defense — as vaccine development gets underway — involves broad-spectrum small molecule antiviral drugs. Small molecule antivirals can treat people infected with a virus and prevent disease in people who may have been exposed but are not yet ill, known as post-exposure prophylaxis or PEP. As shelf-stable pills, they are easy to ship and capable of being swallowed with a drink of water, making treatment available to everyone, everywhere, fulfilling READDI's commitment as a nonprofit to equitable global access.

Advantages of broad-spectrum small molecule drugs

- Can be discovered and developed before the next virus emerges.
- Can be tested for human safety and manufactured ahead of time.
- Can be made into a pill and swallowed with a drink of water.
- Shelf-stable and easy to ship for immediate targeted response.
- Widely accepted by the public.
- Effective against vaccine-resistant virus strains.

Re-engineering drug development

Historically, antiviral drug development has not been commercially attractive. Academics engage in small molecule drug discovery efforts, but they lack the development capability and resources of the pharmaceutical industry. Through its unique public-private model, READDI is re-engineering the process to accelerate development of antiviral medicines, because waiting to react to the next pandemic disease outbreak is already years too late.

How viruses work

Viruses can't live on their own. Far tinier than even the smallest single-cell organism, they consist of genetic material wrapped in a protein shell, called a capsid, that's sometimes wrapped in a fatty membrane, or envelope. The only way viruses replicate is to invade the living cells of an organism and commandeer its metabolic machinery. Once inside, viruses reprogram host cells, turning them into virus factories.

READDI's small molecule antivirals work by disrupting the viral lifecycle.



Founding partners

Inspired by a prominent team of the world's brightest research minds, READDI began with a groundbreaking collaboration between three institutions:



THE UNIVERSITY
of NORTH CAROLINA
at CHAPEL HILL

The **University of North Carolina at Chapel Hill**, which ranks eighth among more than 25,000 institutions worldwide in coronavirus research and fifth in the nation in federal research funding.



ESHELMAN SCHOOL OF PHARMACY
Eshelman Institute for Innovation

The **Eshelman Institute for Innovation** at UNC-Chapel Hill, a preeminent driver of cutting-edge technologies that solve the most pressing healthcare challenges by delivering moonshot initiatives.



The **Structural Genomics Consortium**, a pioneer of open science that's driving a new scientific and drug discovery ecosystem by focusing on less well-studied areas of the human genome.

