

## Coenzyme May Support Cell Defense

(NAPS)—As scientists are learning more about COVID-19 and how it affects the body, they are also looking for ways to support the innate immune response to infection. While more research is needed, preclinical studies lay a foundation of science to inform future human studies.

A recently published preclinical study focused on levels of a coenzyme called nicotinamide adenine dinucleotide (NAD<sup>+</sup>) in cells and animal tissue infected with coronavirus, specifically



**In recent preclinical study in animal cells researchers have uncovered a new way to understand cells' innate response to the novel coronavirus. To gain a full picture, more research is needed.**

SARS-CoV-2 and lung tissue from a COVID-19 cadaver. The results revealed that NAD<sup>+</sup> may play a key role in cellular defense mechanisms.

The researchers observed how SARS-CoV-2 impacted cellular NAD<sup>+</sup> levels and how the virus triggered the infected cells to seek out a cellular nutrient called nicotinamide riboside (NR) in an attempt to replenish the NAD<sup>+</sup> levels that had dropped due to infection.

In a separate set of experiments, the researchers provided NR to coronavirus infected mouse cells and showed that viral replication was significantly reduced compared to a control.

The researchers concluded that coronaviruses disturb the NAD<sup>+</sup> system, and increasing cellular NAD<sup>+</sup> pools with NR may aid cells' defense during infection.

### What does it mean?

These scientists, from the University of Iowa, University of Kansas, and Oregon Health & Science University, will continue to study how cells use NAD<sup>+</sup> while mounting a defense against coronaviruses such as SARS-CoV-2, which causes COVID-19.

As the science moves forward on COVID-19 and NAD<sup>+</sup>, additional studies will need to be done to understand the role of NAD<sup>+</sup> in immune stress in humans.

### Learn More

For more information and to read about the research, visit [www.aboutNAD.com](http://www.aboutNAD.com).