ChromaDex Commits to COVID-19 Research Following Promising Initial Preclinical Findings Showing Viral Infections Deplete NAD and SARS-CoV-2-Infected Cells Activate NAD Defense Pathway That Utilizes Nicotinamide Riboside (NR)

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Preclinical research from Dr. Charles Brenner and a team of leading scientists from three US universities concludes that key steps in coronavirus infection and innate immunity involve a tug-of-war with cellular NAD.

LOS ANGELES--(BUSINESS WIRE)-- ChromaDex Corp. (NASDAQ:CDXC), a global scientific authority on nicotinamide adenine dinucleotide (NAD) and innovators behind Niagen® (patented nicotinamide riboside) science, announced today the publication of results from preclinical research on cells and animal tissue infected with Coronavirus and a COVID-19 cadaver in the online scientific publishing website bioRxiv.org investigating the effect of viral infection on levels of NAD within the cell. The data showed a COVID-19 assault on the cells causes a greater than three-fold reduction in NAD and triggers the infected cells to specifically seek out nicotinamide riboside (NR) in an attempt to replenish NAD levels in the face of viral infection. While further research is underway, this early preclinical data suggests that increasing cytoplasmic NAD levels through a NAD precursor, such as NR, may support innate immunity to coronaviruses and other viruses.

“The virus and infected cells appear to be playing a tug-of-war with cellular NAD,” reports lead investigator Dr. Charles Brenner. “Infected cells activate a set of genes to use NAD for defense while the virus has a specific gene to try to defeat this. These infected cells also have a gene expression program that provides insight into how we may be able to strengthen innate immunity.”
This new research conducted jointly at the University of Iowa, Oregon Health & Science University, and the University of Kansas determined that coronaviruses, including SARS-CoV-2, the causative agent of COVID-19, greatly disturb the NAD system. Cells, animals and a person infected with SARS-CoV-2 turn on three to eight different so-called PARP genes that use NAD as part of an apparent innate immune response. The researchers showed that coronavirus infection depletes cellular NAD and that PARP gene expression depresses NAD. The gene expression program of infected ferrets also indicated that infected cells specifically seek out NR to replenish NAD levels in the face of viral infection.

Dr. Brenner added, “we began a collaboration years ago at University of Iowa with Drs. Anthony Fehr and Stanley Perlman with observations that coronaviruses potentially target cellular NAD. Now working with Dr. Fehr’s group at University of Kansas and Dr. Michael Cohen’s group at Oregon Health & Science University and with the support of five different institutes at the National Institutes of Health, the Pew Charitable Trusts, and the Roy J. Carver Charitable Trust, we’ve been able to show that not only does the virus attack cellular NAD, but also that approaches to protect NAD are likely to differ in their effectiveness. By looking at the gene expression program of ferrets infected with SARS-CoV-2 and from the lung tissue of a person who died of COVID-19, we can see that some NAD synthesis pathways are down and others including the NR pathway are up. We’re excited to continue to uncover how infected cells use NAD for their immune defenses and are looking forward to testing NR in animal models of coronavirus infection.”

Dr. Brenner is the Roy J. Carver Chair & Head of Biochemistry of the University of Iowa, and Chief Scientific Advisor to ChromaDex. Dr. Brenner is one of the world’s foremost experts in NAD research, having discovered the unique NAD-boosting properties of NR in 2004.

Published research has demonstrated decreased NAD levels to be associated with a variety of physiological stresses in humans and animal models. Stress from viral infections is also known to deplete NAD and adversely affect cell resilience.

“As a science-based company with a unique NAD boosting molecule and knowing that our cells’ NAD is depleted by viral infections, we take our responsibility seriously and will leverage our science resources to expedite continuing research on the potential impact of Niagen,” says Rob Fried, ChromaDex CEO.

Dr. Andrew Shao, ChromaDex Senior Vice President of Global Scientific & Regulatory Affairs, adds, “We know from clinical research that increased NAD levels help protect our cells from a variety of physiological stresses. We are pleased to support researchers from around the world exploring the effects of NR to help restore cellular health and aid cellular defense and repair to maintain NAD.”

In an effort to advance research on COVID-19, ChromaDex is expediting research materials and data to members of...
the scientific community including participants of the ChromaDex External Research Program (CERP) who are studying its patented molecule in relation to COVID-19.

For additional information on ChromaDex, please visit www.chromadex.com.

About ChromaDex:

**ChromaDex Corp.** is a science-based integrated nutraceutical company devoted to improving the way people age. ChromaDex scientists partner with leading universities and research institutions worldwide to uncover the full potential of NAD and identify and develop novel, science-based ingredients. Its flagship ingredient, **NIAGEN®** nicotinamide riboside chloride, sold directly to consumers as **TRU NIAGEN®**, is backed with clinical and scientific research, as well as extensive IP protection. **TRU NIAGEN®** is helping the world AGE BETTER®. ChromaDex maintains a website at www.chromadex.com to which ChromaDex regularly posts copies of its press releases as well as additional and financial information about the Company.

Forward-Looking Statements:

This release contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities and Exchange Act of 1934, as amended, including statements related to NR and whether the data from the preclinical research showed a COVID-19 assault on the cells causes a greater than two-fold reduction in NAD and triggers the infected cells to specifically seek out NR in an attempt to replenish NAD levels in the face of viral infection, whether this early preclinical data suggests that increasing cytoplasmic NAD levels through an NAD precursor, such as NR, may support innate immunity to coronaviruses and other viruses, and also whether the extent of the leveraging of the Company's science resources and expediting research materials will advance research on the potential impact of NR on COVID-19. Statements that are not a description of historical facts constitute forward-looking statements and may often, but not always, be identified by the use of such words as "expects", "anticipates", "intends", "estimates", "plans", "potential", "possible", "probable", "believes", "seeks", "may", "will", "should", "could" or the negative of such terms or other similar expressions. More detailed information about ChromaDex and the risk factors that may affect the realization of forward-looking statements is set forth in ChromaDex's Annual Report on Form 10-K for the fiscal year ended December 31, 2019, ChromaDex's Quarterly Reports on Form 10-Q and other filings submitted by ChromaDex to the SEC, copies of which may be obtained from the SEC's website at www.sec.gov. Readers are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date hereof, and actual results may differ materially from those suggested by these forward-looking statements. All forward-looking statements are qualified in their entirety by this cautionary statement and ChromaDex undertakes no obligation to revise or update this release to reflect events or circumstances after the date hereof.
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