ChromaDex Announces New Study Results Highlighting Promising Anti-Viral Effects of Niagen® in Coronavirus Cell Model

Dr. Charles Brenner and a team of scientists from three US universities find that Niagen® decreases Coronavirus replication in animal cells

LOS ANGELES – ChromaDex Corp. (NASDAQ:CDXC) today announced the latest preclinical findings indicating Niagen® (patented nicotinamide riboside) inhibits replication of a form of Coronavirus, the virus that causes COVID-19 infection, in mouse cells.

The preclinical study results were published July 8 on scientific publishing website bioRxiv.org. The research conducted jointly at the University of Iowa, Oregon Health & Science University, and the University of Kansas previously demonstrated in a preclinical cell model that levels of the coenzyme NAD^+ were depleted up to 80% in Coronavirus-infected cells. Consistent with those findings, the new study showed that the loss of NAD^+ appeared to disrupt genes involved with cell defense which can impair cells' innate immune response.

The researchers hypothesized that if NAD^+ depletion worsened cells' defenses and aided viral replication, raising NAD^+ levels with nicotinamide riboside (NR, or Niagen®) may have an anti-viral effect. These latest results confirmed their hypothesis by demonstrating that cell lines infected with a type of Coronavirus had decreased viral replication when supplemented with NR. The collaborative research team also found that the activity of antiviral PARP enzymes was upregulated by boosting NAD pharmacologically.

"Our in vitro data now establish the potential of NR and other NAD-boosting technologies to block infection. The next steps are animal and human trials against SARS-CoV-2," reports Dr. Charles Brenner, a co-author of the study and ChromaDex Chief Scientific Advisor. "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."

"Dr. Brenner and his colleagues' preclinical research provides new insight into the critical role NR may play in replenishing the NAD that is depleted under viral infection," says ChromaDex CEO Rob Fried. "We will support continued research that will examine our ingredient's potential to impact the response to viral infection."

The team of investigators used a multi-pronged approach involving a form of Coronavirus and performed experiments in multiple separate cell models. Following infection, they measured various NAD metabolites, expression of genes encoding enzymes involved in NAD biosynthesis, expression of genes encoding NAD-dependent enzymes critical for host cell

defense and viral replication rates.

While many of the underlying mechanisms are yet to be elucidated, the team found that several NAD-dependent termed PARPs are activated following SARS-CoV-2 infection. Cellular defenses may become overwhelmed as the cell and the virus play “tug of war” over NAD, resulting in severe NAD shortages needed to block viral replication. Additional research is necessary to explore the role NAD may play in maintaining a proportional inflammatory response to infection, and whether a depletion of NAD may worsen the “cytokine storm” that results in the fatal acute respiratory distress syndrome (ARDS) seen in some COVID patients.

Dr. Brenner and the team of scientists are continuing their investigations into the antiviral potential of Niagen in order to translate the findings from the lab to the clinic. Ultimately, clinical trials are required to determine whether Niagen® impacts COVID-19 infection in humans.

“These findings build upon a body of research indicating that elevating NAD^+ levels helps protect our cells from a range of physiological stresses and provide clear direction for further study as we explore the full potential of NR in innate immunity,” said Dr. Andrew Shao, ChromaDex Sr. Vice President of Global Scientific & Regulatory Affairs.

Through the ChromaDex External Research Program (CERP), ChromaDex has also expedited research materials and data to members of the scientific community seeking to understand the potential role of Niagen® in COVID-19. This research was also supported by the National Institutes of Health, the Roy J. Carver Trust, and the Pew Charitable Trusts.

Dr. Brenner first discovered NR’s NAD-boosting potential in 2004 and has been the Roy J. Carver Chair & Head of Biochemistry at the University of Iowa since 2009. This summer, Dr. Brenner’s laboratory will relocate to City of Hope National Medical Center in California, where he will continue his research as the Alfred E. Mann Chair of the new Department of Diabetes & Cancer Metabolism. ChromaDex, the exclusive licensee of Dr. Brenner’s patented NR, has since invested over $35 million in investigating, manufacturing and offering NR in the form of Niagen® and has secured more than 20 patents. ChromaDex has demonstrated the safety and efficacy of Niagen® in ten published human trials (and over 20 ongoing studies) and has achieved government regulatory acceptance in the United States, Canada, the European Union, and Australia.

For more information about research conducted through CERP, visit www.AboutNAD.com.

For additional information about 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 discover, develop and create solutions to deliver the full potential of NAD and its impact on human health. Its flagship ingredient, NIAGEN® nicotinamide riboside, 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 whether Niagen® decreases Coronavirus replication in animal cells, whether loss of NAD^+ disrupts genes involved with cell defense which can impair cells' innate immune response, whether several different cell lines infected with a type of Coronavirus had decreased viral replication when supplemented with NR, whether the activity of the protective PARP enzymes was upregulated by NR, whether in vitro data now establishes the potential of NR and other NAD-boosting technologies to block infection, and whether preclinical research provides new insight into the critical role NR may play in replenishing the NAD that is depleted under viral infection. 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, as amended, 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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