

Washington University Medical School Scientists Publish Results of Pre-Clinical Study Showing Nicotinamide Riboside is Effective in Rescuing Neurons Subjected to Trauma and Disease

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- Study Showed Axon Degeneration and Cell Death are Blocked by Supplementation with the Cell-permeable NAD+ Precursor, Nicotinamide Riboside -

- A Recent Scripps Study Also Showed Restoring levels of NAD+ Reversed Within Only a Few Hours the Fate of Neurons That Had Been Doomed to Destruction -

IRVINE, Calif., April 29, 2015 (GLOBE NEWSWIRE) -- ChromaDex Corp. (OTCQX:CDXC), an innovative natural products company that provides proprietary ingredients and science-based solutions to the dietary supplement, food and beverage, cosmetic and pharmaceutical industries, announces the results of a study performed by researchers at Washington University Medical School were published online on April 23rd in the journal *Science*. The report, which was titled "**SARM1 Activation Triggers Axon Degeneration Locally via NAD+ Destruction**", was also the subject of a press release issued by Washington University School of Medicine.

Axon degeneration interrupts nerve signaling and prevents communication between nerves. This degeneration is common in many neurodegenerative diseases, neurological disorders, and traumatic nerve injuries.

Axons, the longest cellular structures in the body, possess an intrinsic, locally-mediated self-destruction program that facilitates clearance of damaged axon fragments but also promotes axon loss in the context of neurological disorders. The scientists reported that the protein SARM1, an essential regulator of axon degeneration, triggers a rapid chemical breakdown of the metabolic cofactor NAD+ (nicotinamide adenine dinucleotide).

Moreover, they found that this protein, once unleashed, causes a rapid decline in the energy supply within axons. Within minutes after SARM1 is activated in neurons, a massive loss of NAD⁺ occurs within the axon.

Working in neurons in which SARM1 was activated, the researchers showed they could completely block axon degeneration and neuron cell death by supplementing the cells with a precursor to NAD⁺, a chemical called nicotinamide riboside (NR). The neurons were able to use nicotinamide riboside to keep the axons energized and healthy.

The study was led by Jeffrey Milbrandt, M.D., Ph.D., James S. McDonnell Professor and Head of the Department of Genetics in collaboration with Aaron DiAntonio, Alan A. and Edith L. Wolff, Professor of Developmental Biology at Washington University School of Medicine in St. Louis. Their studies have focused on axon biology and the role of nicotinamide adenine dinucleotide (NAD⁺), of which NR is an important precursor.

In March 2013, **ChromaDex announced it had licensed from Washington University exclusive worldwide patent rights** related to Nicotinamide Riboside (NR). The patent rights cover the use of NR for the prevention or treatment of neuropathies caused by axon degeneration.

Milbrandt remarked, "In this study, we showed that SARM1 promotes destruction of injured axons by initiating a program that leads to NAD⁺ breakdown and energetic catastrophe. This process can be counteracted by administration of NR, which stimulates increased NAD⁺ synthesis. The inhibition of SARM1 destructive activity prevents the degeneration of injured axons and may be useful in treating conditions where axon dysfunction plays a central role in the pathology".

Frank Jaksch, Jr., CEO and co-founder of ChromaDex, commented, "This study is yet another piece of research that indicates a depletion of the metabolic cofactor NAD⁺ results in axon loss during injury and disease. Importantly, the study also shows that supplementation with the cell-permeable NAD⁺ precursor NR can block the depletion of NAD⁺."

Jaksch continued, "These findings suggest that supplementation with NR shows promise as a potential therapy for conditions involving axonal injury including trauma to the head (concussions) as well various neurodegenerative diseases and neurological disorders."

Another **study recently published by scientists at The Scripps Research Institute (TSRI)** revealed for the first time a killing mechanism that could underpin a range of the most intractable neurodegenerative diseases such as Alzheimer's, Parkinson's and **ALS**. The researchers demonstrated that TPrP (a misfolded form of the prion disease protein) induces neuronal death by profoundly depleting NAD⁺. Restoring NAD⁺ proved to be the critical factor for

the rescue of neurons subjected to TPrP injury. Even when added 3 days after TPrP exposure, an infusion of NAD⁺ reversed within only a few hours the fate of neurons that had been doomed to destruction. It was noted that the loss of NAD⁺ is suggestive of some other neurodegenerative diseases, such as Parkinson's where NAD⁺ depletion could play a role in mitochondrial failure.

ChromaDex's patented NIAGEN[®] is the first and only commercially available form of nicotinamide riboside, a naturally occurring vitamin B3 derivative found in milk. Published research has shown that NR is perhaps the most effective precursor to boost cellular levels of NAD⁺ and improve mitochondrial performance and energy. NAD⁺ is essential in supporting healthy cellular metabolism including the efficient conversation of blood glucose into energy.

About Mitochondria and NR:

While scientists have known for decades that mitochondria produce energy for cells, it is only recently that mitochondrial function has been linked to general health, aging and numerous disease conditions. Key to mitochondrial function is maintenance of sufficient levels of NAD⁺ that can be used to generate energy efficiently and that allows overall mitochondria function, such as signaling, immune regulation, and cell death, to proceed properly. If levels go down or are redirected (as in cancer cells), mitochondrial function erodes creating numerous adverse effects. Scientists have begun to show, in animal models, that the stimulation of mitochondrial function with NR may result in increased longevity as well as other health improvements. Researchers worldwide are continuing to make seminal discoveries characterizing the unique properties of NR in a wide range of health benefits. These include increased mitochondrial health, increased muscle endurance, neuroprotection, sirtuin activation (which has been linked to slowing the aging process), protection against weight gain on high-fat diet, protection against oxidative stress, inhibition of tumor formation and improvement of blood glucose levels and insulin sensitivity. At the same time mitochondrial dysfunction has been increasingly linked to a broad range of disease conditions, including autoimmune diseases, macular degeneration, cancer, Alzheimer's and other central nervous system diseases, Duchenne muscular dystrophy and others. ChromaDex, through more than 20 collaborations with researchers around the world, is in the forefront of research showing that the use of NR helps preserve or restore mitochondrial function and may be beneficial in treating and/or preventing disease.

About Washington University School of Medicine:

Washington University School of Medicine has an outstanding history of biomedical research in an environment that cultivates the best minds in science and medicine. Many medical firsts and 17 Nobel Laureates are associated with Washington University School of Medicine, which is ranked among the top medical schools in the United States by U.S. News & World Report. The School of Medicine maintains one of the most dynamic and robust research enterprises in the nation. During the fiscal year ending June 30, 2012, grants and contracts totaling more than \$536

million supported faculty research efforts at the School of Medicine. It is one of the largest recipients of funding for research and training from the National Institutes of Health. For more information, visit:

<http://medicine.wustl.edu/>.

About ChromaDex:

ChromaDex is an innovative natural products company that discovers, acquires, develops and commercializes proprietary-based ingredient technologies through its unique business model that utilizes its wholly owned synergistic business units, including ingredient technologies, natural product fine chemicals (known as "phytochemicals"), chemistry and analytical testing services, and product regulatory and safety consulting (as Spherix Consulting). The company provides seamless science-based solutions to the nutritional supplement, food and beverage, animal health, cosmetic and pharmaceutical industries. The ChromaDex ingredient technologies unit includes products backed with extensive scientific research and intellectual property. Its ingredient portfolio includes pTeroPure[®] pterostilbene; ProC3G[®], a natural black rice containing cyanidin-3-glucoside; PUREENERGY[®], a caffeine-pTeroPure co-crystal; and NIAGEN[®], its recently launched branded nicotinamide riboside, a novel next-generation B vitamin. To learn more about ChromaDex, visit www.chromadex.com.

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. 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. Actual results may differ materially from those set forth in this release due to the risks and uncertainties inherent in the Company's business. More detailed information about the Company and the risk factors that may affect the realization of forward-looking statements is set forth in the Company's Annual Report on Form 10-K for the fiscal year ended January 3, 2015, the Company's Quarter Reports on Form 10-Q and other filings submitted by the Company 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. All forward-looking statements are qualified in their entirety by this cautionary statement and the Company undertakes no obligation to revise or update this release to reflect events or circumstances after the date hereof.

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