Clene Presents Preclinical Data Supporting CNM-Au8® for the Treatment of Parkinson's Disease

September 4, 2025

- ***Novel human preclinical neuronal model for Parkinson's disease demonstrated CNM-Au8's ability to improve mitochondrial health, restore cellular metabolism, reduce inflammation, and normalize dysregulated gene expression in both familial and sporadic Parkinson's disease***
- ***Results presented today at the H2 Therapeutics Stewardship Meeting in New York City, hosted by the Michael J Fox Foundation***
- ***Taken together with results from a Phase 2 study that demonstrated orally dosed CNM-Au8 favorably alters critical brain energy metabolites NAD+, NADH, and ATP in PD patients, these new data support the continued development of CNM-Au8 as a treatment for PD***

SALT LAKE CITY, Sept. 04, 2025 (GLOBE NEWSWIRE) -- Clene Inc. (Nasdaq: CLNN) (along with its subsidiaries, "Clene") and its wholly owned subsidiary Clene Nanomedicine Inc., a clinical-stage biopharmaceutical company focused on improving mitochondrial health and protecting neuronal function to treat neurological diseases, today announced new preclinical data showing that CNM-Au8® improved key measures of cellular health in a novel dopaminergic neuron model of Parkinson's disease (PD). The study results will be presented today at the Michael J. Fox Foundation H2 Therapeutics Stewardship Meeting in New York City by Associate Professor Jerome Mertens, who conducted the study in collaboration with Dr. Fred Gage of the Salk Institute, and Karen S. Ho, Ph.D., Vice President of Translational Medicine of Clene. The work was supported by funding from the Michael J. Fox Foundation (MJFF).

The study used skin cells from 8 sporadic PD (sPD) patients, 14 familial PD (fPD) patients—13 with LRRK2 gene mutations and 1 with a PARK gene mutation—and 13 healthy individuals. The skin cells were directly converted into dopaminergic neurons, the brain cells essential for movement and the most vulnerable to degeneration in PD. This innovative method retains age-related characteristics from PD patient donors, enabling researchers to study disease processes as they occur in aged disease-relevant neurons.

Key findings from CNM-Au8 treatment include:

- **Improved mitochondrial health in familial PD**: CNM-Au8 increased mitochondrial health (membrane potential) and mitochondrial volume, while reducing harmful reactive oxygen species (ROS) in fPD neurons. Similar, relatively milder effects were observed in sPD neurons.
- **Reduced inflammation in sporadic PD**: CNM-Au8 lowered levels of senescence-related inflammatory proteins, including CD40 and CXCL10, in sPD neurons, helping to reduce neuroinflammation that exacerbates PD progression.
- **Restored cellular metabolism**: CNM-Au8 dose-dependently increased the NAD+/NADH ratio, a measure of cellular energy metabolism. Further, CNM-Au8 corrected the intracellular levels of 36% of metabolites in fPD neurons and 17% in sPD neurons, particularly in the tricarboxylic acid (TCA) cycle for energy production and in nucleotide metabolism (e.g., xanthine, inosine) demonstrated by semi-targeted metabolomic analyses.
- **Normalized dysregulated gene expression**: CNM-Au8 treatment of PD neurons resulted in a reversal of the global disease-associated gene expression profiles in both sPD and fPD dopaminergic neurons, normalizing the expression of the majority of all top up- and down-regulated PD differentially expressed gene transcripts to near-control levels.
- **Favorable safety profile**: CNM-Au8 did not demonstrate evidence of toxicity toward the PD dopaminergic cells at all tested doses, a finding consistent with the clinical observation that CNM-Au8 treatment in humans has over 1,000 patient-years of exposure data in ALS and MS without significant safety concerns.

"Parkinson's disease has complex and multifactorial causes, but mitochondrial dysfunction, chronic inflammation, and disrupted metabolism are consistent hallmarks," said Dr. Mertens of the Salk Institute. "These results, generated in an advanced model that reflects both the genetics and the aging process of PD, add to the growing body of evidence that CNM-Au8's catalytic metabolic effects on mitochondrial health, energy metabolism, neuroinflammation, and gene expression could have broad therapeutic potential for the treatment of Parkinson's disease and other neurodegenerative disorders."

"CNM-Au8 has a unique nanocatalytic mechanism of action that favors its application to many neurodegenerative diseases that have mitochondrial dysfunction and energetic failure at their core. As we advance CNM-Au8 through late-stage clinical studies to demonstrate its efficacy in treating ALS, and engage with the FDA to support a Phase 3 MS clinical program, we also look forward to designing and implementing a Phase 2 clinical study of CNM-Au8 for the treatment of PD," said Benjamin Greenberg, MD, Head of Medical at Clene. "We are grateful to the MJFF for supporting this work, and to the Salk Institute for such a meaningful collaboration. These promising preclinical results strengthen the body of evidence supporting further clinical development of CNM-Au8 for the treatment of Parkinson's disease."

About Clene
Clene Inc., (Nasdaq: CLNN) (along with its subsidiaries, "Clene" and its wholly owned subsidiary Clene Nanomedicine, Inc.), is a late clinical-stage biopharmaceutical company focused on improving mitochondrial health and protecting neuronal function to treat neurodegenerative diseases,

including amyotrophic lateral sclerosis, Parkinson's disease, and multiple sclerosis. CNM-Au8 ® is an investigational first-in-class therapy that improves central nervous system cells' survival and function via a mechanism that targets mitochondrial function and the NAD pathway while reducing oxidative stress. CNM-Au8® is a federally registered trademark of Clene Nanomedicine, Inc. The company is based in Salt Lake City, Utah, with R&D and manufacturing operations in Maryland. For more information, please visit www.clene.com or follow us on X (formerly Twitter) and LinkedIn.

About CNM-Au8®

CNM-Au8 is an oral suspension of gold nanocrystals developed to restore neuronal health and function by increasing energy production and utilization. The catalytically active nanocrystals of CNM-Au8 drive critical cellular energy producing reactions that enable neuroprotection and remyelination by increasing neuronal and glial resilience to disease-relevant stressors. CNM-Au8® is a federally registered trademark of Clene Nanomedicine, Inc.

Forward-Looking Statements

This press release contains "forward-looking statements" within the meaning of Section 21E of the Securities Exchange Act of 1934, as amended, and Section 27A of the Securities Act of 1933, as amended, which are intended to be covered by the "safe harbor" provisions created by those laws. Clene's forward-looking statements include, but are not limited to, statements regarding our or our management team's expectations, hopes, beliefs, intentions or strategies regarding our future operations. In addition, any statements that refer to projections, forecasts or other characterizations of future events or circumstances, including any underlying assumptions, are forward-looking statements. The words "anticipate," "believe," "contemplate," "continue," "estimate," "expect," "intends," "may," "might," "plan," "possible," "potential," "predict," "project," "should," "will," "would," and similar expressions may identify forward-looking statements, but the absence of these words does not mean that a statement is not forward-looking. These forward-looking statements represent our views as of the date of this press release and involve a number of judgments, risks and uncertainties. We anticipate that subsequent events and developments will cause our views to change. We undertake no obligation to update forward-looking statements to reflect events or circumstances after the date they were made, whether as a result of new information, future events or otherwise, except as may be required under applicable securities laws. Accordingly, forward-looking statements should not be relied upon as representing our views as of any subsequent date. As a result of a number of known and unknown risks and uncertainties, our actual results or performance may be materially different from those expressed or implied by these forward-looking statements. Some factors that could cause actual results to differ include general market conditions, whether clinical trials demonstrate the efficacy and safety of our drug candidates to the satisfaction of regulatory authorities, or do not otherwise produce positive results which may cause us to incur additional costs or experience delays in completing, or ultimately be unable to complete the development and commercialization of our drug candidates; the clinical results for our drug candidates, which may not support further development or marketing approval; actions of regulatory agencies, which may affect the initiation, timing and progress of clinical trials and marketing approval; our ability to achieve commercial success for our drug candidates, if approved; our limited operating history and our ability to obtain additional funding for operations and to complete the development and commercialization of our drug candidates; and other risks and uncertainties set forth in "Risk Factors" in our most recent Annual Report on Form 10-K and any subsequent Quarterly Reports on Form 10-Q. In addition, statements that "we believe" and similar statements reflect our beliefs and opinions on the relevant subject. These statements are based upon information available to us as of the date of this press release, and while we believe such information forms a reasonable basis for such statements, such information may be limited or incomplete, and our statements should not be read to indicate that we have conducted an exhaustive inquiry into, or review of, all potentially available relevant information. These statements are inherently uncertain and you are cautioned not to rely unduly upon these statements. All information in this press release is as of the date of this press release. The information contained in any website referenced herein is not, and shall not be deemed to be, part of or incorporated into this press release.

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