Parkinson's brain chemistry changes now trackable in man

Featured in the current issue of the Journal of Clinical Investigation, KineMed, Inc. announces an innovative class of biomarkers that enable scientists to track molecular transport changes in the brain during neurodegenerative diseases, in humans and preclinical models.

EMERYVILLE, CA, September 10th, 2012 – KineMed, Inc. (www.kinemed.com) announced today the publication of a novel discovery in biomarkers for neurodegenerative diseases from a study funded by The Michael J. Fox Foundation. The absence of meaningful biomarkers has remained a roadblock in the development and clinical application of treatments for neurological disorders. The publication describes in detail a unique class of biomarkers that measure the transport efficiency of key cargo molecules through neurons in the living human brain. Biomarkers of this pathogenically causal process may be used for the development of drugs to treat Parkinson's disease.


The researchers, led by Dr. Patrizia Fanara at KineMed, Inc., and Dr. Marc Hellerstein at the University of California, Berkeley and KineMed, Inc., working with collaborators at the University of California San Francisco and the University of Osnabruck, Germany, used the ²H₂O labeling approach to specifically track, for the first time, the movement of cargo proteins that rely on axonal transport prior to release into the cerebrospinal fluid (CSF).

The results demonstrate that the axonal transport of cargo proteins is impaired in preclinical models of ALS and Parkinson’s disease and correlates with disease severity. Moreover, treatments targeting this malfunction in preclinical models delayed or reversed disease symptoms. The study further revealed that similar abnormalities in axonal transport can be tracked through a single CSF sample in Parkinson’s patients, which makes this method easy to apply in clinical settings.

In the same issue of JCI, the distinguished author, Dr. William Z. Potter, Co-Chair Emeritus, Neuroscience Steering Committee for the Biomarkers Consortium of the Foundation for the National Institutes of Health; Sr. Advisor to the Director of the National Institute of Mental Health, discusses the uses of this biomarker approach and the implications of using this technology to track brain processes in a commentary article entitled “Mining the secrets of the

Dr. Patrizia Fanara, Vice President, Neuroscience at KineMed, Inc. said “This is a breakthrough in translational science, bridging basic neurobiology and clinical medicine. We are enabling physicians and researchers to answer clinical questions such as: “How fast is the disease progressing?” and “Is this drug delaying or reversing the underlying disease?”

Dr. Marc Hellerstein, Professor (Calloway Chair) at University of California Berkeley and Chief of the Scientific Advisory Board at KineMed, added, “As Dr. Potter’s editorial noted, the absence of biomarkers of the pathologic processes driving neurodegenerative diseases has impeded therapeutic discovery. The diagnostic biomarker approach described here may provide a major addition to the clinical tool-kit for managing Parkinson’s patients and discovering effective, new treatments.”

“KineMed’s researchers have made important progress in the search for a Parkinson’s disease biomarker, which could in the future play a critical role in the development of novel therapies to slow or even stop the progression of the disease,” said Dr. Mark Frasier, Vice President of Research Programs at The Michael J. Fox Foundation.

KineMed gratefully acknowledges the invaluable contribution of the study research group: Drs. Michael Aminoff, Chadwick Christine, Richard Price, Robert Nussbaum and Deborah Cabin from the University of California San Francisco, Dr. Lori Kohlstaedt at the University of California Berkeley, and Dr. Roland Brandt at the University of Osnabruck, Germany.

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About KineMed, Inc.
KineMed, Inc., is a biomarker discovery and development company based in Emeryville, California. Our biomarkers provide predictive, actionable information to dramatically improve, de-risk and accelerate drug discovery, development and disease management decisions. The Company’s proprietary assays reveal dynamic causal processes of disease, rather than isolated molecular targets, and provide precise measures of therapeutic effectiveness on these processes. KineMed’s translational assays extract “yes/no” answers from the complexity of protein dynamics and network biology, addressing treatment questions such as “Is this drug right for the patient” and “Is the drug working?”

KineMed’s biomarkers are fully translational from animal to man, seamlessly harmonizing data across pre-clinical and clinical phases of development, through to the diagnosis and management of diseases including fibrotic, metabolic, cardiovascular disease, and cancer. KineMed’s platform addresses key industry needs:

- **Focus on causes rather than symptoms**: Generating pivotal knowledge for developing novel therapeutics that are differentiated by targeting underlying biochemical causes and mode of action

- **Systems biology approach**: Insight into intact living systems, rather than simplified models, ensures that drug effects are understood in their intended biological context

- **Reduce late-stage attrition**: Early, decision-relevant metrics of drug activity separate winners from losers and reduce later failures to improve the NPV of R&D spend

- **Powerful assays of disease state**: Custom-developed assays create companion diagnostic tests for personalized medicine

In addition to assisting clients, KineMed also has an active pipeline of therapeutics and diagnostics in development.

KineMed is seeking further broad collaborations with biotechnology, pharmaceutical, CRO, histopathology, diagnostics and medical instrument partners.

For more information about KineMed, please visit: [http://www.kinemed.com](http://www.kinemed.com)

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