

QIAGEN and Neuron23 partner to develop next-generation sequencing companion diagnostic for novel Parkinson's disease drug

- **Initial development and validation of clinical trial assay**
- **Next-generation sequencing (NGS) based assay targeting LRRK2 from blood samples**
- **Collaboration expands QIAGEN's NGS testing portfolio for precision medicine beyond oncology into neurology applications**

Hilden, Germany, Germantown MD, South San Francisco, CA, September 14, 2022 – QIAGEN (NYSE:QGEN; Frankfurt Prime Standard: QIA) and Neuron23 Inc., an early stage biotechnology company focused on developing precision medicines for genetically defined neurological and immunological diseases, today announced the signing of an agreement to develop a companion diagnostic for Neuron23's brain penetrant leucine-rich repeat kinase (LRRK2) inhibitor for Parkinson's disease.

Under the new Master Collaboration Agreement, QIAGEN will develop and validate a clinical trial assay that will detect a combination of biomarkers discovered by Neuron23 that together predict the responsiveness of Parkinson's disease to a LRRK2 inhibitor. The partnership will support the clinical development of Neuron23's drug candidate that is currently in the late stages of preclinical development. Subject to further clinical development, the agreement also covers options for the future development of additional companion diagnostics.

Neuron23 joins a group of more than 25 leading pharmaceutical and biotechnology companies who have reached master collaboration agreements with QIAGEN to develop and commercialize companion diagnostic tests for their drug candidates – a deep pipeline of potential future products to advance precision medicine for the benefit of patients around the world.

The assay for this collaboration will be integrated into a next-generation sequencing (NGS) workflow that leverages QIAGEN's Sample to Insight capabilities, including instrumentation, IVD sample preparation, library preparation and bioinformatics. The workflow is planned to be developed using the NextSeq™ 500 System as part of the NGS strategic collaboration between QIAGEN and Illumina. Based on Neuron23's artificial intelligence (AI)-enabled drug discovery and biomarker platform, it will target a complex signature of 50 single nucleic polymorphisms (SNPs) for U.S. and European populations and eventually additional SNPs that are prevalent in Asian populations.

"The collaboration with Neuron23 shows the rapid momentum precision medicine is gaining in disease areas outside oncology," said Jonathan Arnold, Vice President, Head of Oncology and Precision Diagnostics, at QIAGEN. "Our expertise in blood- and NGS-based molecular testing from Sample to Insight will enable Neuron23 to run a clinical trial for a drug candidate that may have the potential to modify the course of an inexorable neurodegenerative disease in a genetically defined population."

"This collaboration combines the leading expertise of Neuron23 in drug discovery, data science, and machine learning with QIAGEN's long-standing experience and global leadership in companion diagnostic development. QIAGEN's blood-based test will help to identify patients with Parkinson's disease who are likely to respond to Neuron23's LRRK2 inhibitor. The development of a companion diagnostic



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identifying this sub-population of Parkinson's disease patients will de-risk the clinical development of Neuron23's LRRK2 inhibitor and help identify individuals who may benefit from this disease-modifying therapy. We are excited to be working with an industry leader on the first companion diagnostic developed for Parkinson's disease," said Nancy Stagliano, Ph.D., CEO of Neuron23.

No laboratory tests are currently available for the diagnosis of non-genetic cases for Parkinson's disease. Usually, the disease is diagnosed based on medical history and neurological examination. Although no cure currently exists for Parkinson's disease, therapies are used to alleviate some symptoms.

LRRK2 is a complex, multidomain protein found in neurons and many tissues and cell types throughout the body. Mutations in the LRRK2 gene are one of the most common causes of familial Parkinson's disease and individuals who inherit gain of function mutations in LRRK2 are clearly at higher risk to develop the disease in later life. Additionally, there is emerging evidence that LRRK2 may play a role in a subset of the larger population of patients with non-familial Parkinson's disease. Recent investigations have shown that small-molecule LRRK2 inhibitors can be neuroprotective, suggesting that therapies targeting LRRK2 could be beneficial in a larger population of patients.

QIAGEN is a pioneer in precision medicine and the global leader in collaborations with pharmaceutical and biotechnology companies to co-develop companion diagnostics, which detect clinically relevant genetic abnormalities to provide insights that guide clinical decision-making in diseases such as cancer. QIAGEN has an unmatched depth and breadth of technologies from NGS to polymerase chain reaction (PCR) and digital PCR (dPCR) for companion diagnostic development. QIAGEN has ten PCR based companion diagnostic indications that are FDA approved, including *therascreen* EGFR for non-small cell lung cancer (NSCLC), *therascreen* KRAS for colorectal cancer and NSCLC, *therascreen* FGFR for urothelial cancer, *therascreen* PIK3CA for breast cancer based on tissue or plasma samples and the *therascreen* BRAF kit for colorectal cancer.

About QIAGEN

QIAGEN N.V., a Netherlands-based holding company, is the leading global provider of Sample to Insight solutions that enable customers to gain valuable molecular insights from samples containing the building blocks of life. Our sample technologies isolate and process DNA, RNA and proteins from blood, tissue and other materials. Assay technologies make these biomolecules visible and ready for analysis. Bioinformatics software and knowledge bases interpret data to report relevant, actionable insights. Automation solutions tie these together in seamless and cost-effective workflows. QIAGEN provides solutions to more than 500,000 customers around the world in Molecular Diagnostics (human healthcare), Applied Testing (primarily forensics), Pharma (pharma and biotech companies) and Academia (life sciences research). As of June 30, 2022, QIAGEN employed more than 6,100 people in over 35 locations worldwide. Further information can be found at <http://www.qiagen.com>.

About Neuron23™

Neuron23™ Inc. is an early stage biotechnology company focused on developing precision medicines for genetically defined neurological and immunological diseases. Neuron23 combines recent advances in human genetics with a state-of-the-art artificial intelligence (AI)-enabled drug discovery and biomarker platform to advance therapeutics for devastating diseases. The Company's focus areas are neurodegenerative diseases, neuroinflammatory diseases, and systemic autoimmune and inflammatory diseases. Founded in 2018, Neuron23 has assembled a world-class team of experts and entrepreneurs located in South San Francisco, CA. For more information, please visit www.neuron23.com.



Forward-Looking Statement

Certain statements contained in this press release may be considered forward-looking statements within the meaning of Section 27A of the U.S. Securities Act of 1933, as amended, and Section 21E of the U.S. Securities Exchange Act of 1934, as amended. To the extent that any of the statements contained herein relating to QIAGEN's products, collaborations markets, strategy or operating results, including without limitation its expected adjusted net sales and adjusted diluted earnings results, are forward-looking, such statements are based on current expectations and assumptions that involve a number of uncertainties and risks. Such uncertainties and risks include, but are not limited to, risks associated with management of growth and international operations (including the effects of currency fluctuations, regulatory processes and dependence on logistics), variability of operating results and allocations between customer classes, the commercial development of markets for our products to customers in academia, pharma, applied testing and molecular diagnostics; changing relationships with customers, suppliers and strategic partners; competition; rapid or unexpected changes in technologies; fluctuations in demand for QIAGEN's products (including fluctuations due to general economic conditions, the level and timing of customers' funding, budgets and other factors); our ability to obtain regulatory approval of our products; difficulties in successfully adapting QIAGEN's products to integrated solutions and producing such products; the ability of QIAGEN to identify and develop new products and to differentiate and protect our products from competitors' products; market acceptance of QIAGEN's new products and the integration of acquired technologies and businesses. For further information, please refer to the discussions in reports that QIAGEN has filed with, or furnished to, the U.S. Securities and Exchange Commission (SEC).

Contacts QIAGEN:

Investor Relations

John Gilardi +49 2103 29 11711
Phoebe Loh +49 2103 29 11457
e-mail: ir@QIAGEN.com

Public Relations

Thomas Theuringer +49 2103 29 11826
e-mail: pr@QIAGEN.com

Contact Neuron23™:

Greig Communications

Kathy Vincent
e-mail: kathy@greigcommunications.com