Scipher Medicine and Leading Medical Researchers in Network and Data Science Compress Time to Identify Covid-19 Treatments from Years to Months

- Study demonstrates Scipher Medicine's ability to analyze patient data to identify novel treatments.
- Scipher will focus on pharma collaborations in autoimmune diseases.

June 8, 2021 – WALTHAM, MA – Scipher Medicine, a precision immunology company matching patients with the most effective therapy, in collaboration with Northeastern University; Brigham and Women's Hospital, Harvard Medical School, and Boston University's National Emerging Infectious Diseases Laboratories (NEIDL), today announced they identified novel drug opportunities for the disease caused by SARS-CoV-2. This approach can be rapidly applied to novel drug discovery for new and emerging viruses.

The results were published both in Proceedings of the National Academy of Sciences and Life Science Alliance. By applying network biology and AI platform to clinico-genomic patient data, the research was compressed from three years to two months. This process represents an essential advancement in developing and testing an effective cure against diseases, as traditional methodologies don't meet the requirements to quickly develop therapies for emerging diseases.

"The fact that we were able to predict repurposing opportunities with high accuracy is impressive and further demonstrates the validity of Scipher's platform to discover novel drug treatments. It was a privilege for Scipher to closely collaborate with the Center for Complex Network Research at Northeastern University in this project," said Slava Akmaev, Ph.D., CTO, and Head of Therapeutics at Scipher.

The collaborators identified repurposing opportunities targeting the human proteome with a 62% success rate in these studies. Additionally, 70% of the top-ranked candidates targeting the virus were shown to bind viral proteins. The authors also noted that while the results predicted disease manifestations in parts of the body that are consistent with clinical observations, such as recently reported neurological issues, the appearance in multiple reproductive system tissues as well as spleen was unexpected, potentially related to disruptions in the regulation of the immune system.

Scipher Medicine is now leveraging their proprietary network biology and AI platform Spectra™, together with rich clinico-genomic data from their molecular diagnostic testing business, to create new-in-class precision therapeutics in autoimmune diseases, targeting specific patient populations with tailored therapeutics. "Spectra's proven ability to discover drug targets from patient data is unique in the industry," said Alif Saleh, Chief Executive Officer of Scipher Medicine. "Our next objective is to leverage Spectra's capabilities in pharma collaborations to transform drug discovery in autoimmune diseases and make the development process faster, more cost-effective, and predictable."

"This study exemplifies how network medicine is revolutionizing medical discoveries," said Albert-László Barabási, Distinguished Professor, Physics, College of Arts & Sciences, Director of The Center for Complex Network Research at Northeastern University. "It further demonstrates the enormous potential of network medicine in novel drug discovery, which has only just begun."

For a full list of ranked and repurposed drugs and complete study, please visit: https://www.life-science-alliance.org/content/4/5/e202000904.abstract https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7280907/

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About Spectra™

A platform deciphering the complexity of disease by analyzing large patient molecular datasets through the unique lens of the human interactome and AI. Built upon over a decade of experimental research, the platform's backbone is the network map of human biology explaining how proteins expressed from the human genome interact to cause specific disease phenotypes, providing the wiring diagram needed to interpret dynamic individual patient molecular data to reveal actual disease biology. Spectra™ is not a model but a disease representation rooted in experimental human biology, allowing us to identify a patient's unique disease signature, predict drug response to approved drugs and identify novel drug targets in patients not responding to existing therapies. Visit the Spectra Platform for more information.

About Scipher Medicine

Scipher Medicine, a precision immunology company, holds the fundamental belief that patients deserve simple answers to treatment options based on scientifically backed data. Leveraging our proprietary Spectra Network Biology platform and artificial intelligence, we commercialize blood tests revealing a persons' unique molecular disease signature and match such signature to the most effective therapy, ensuring optimal treatment from day one. The unprecedented amount of patient molecular data generated from our tests further drives the discovery and development of novel and more effective therapeutics. We partner with payers, providers, and pharma along the health care value chain to bring precision medicine to autoimmune diseases. Visit www.sciphermedicine.com and follow Scipher on Twitter, Facebook, and LinkedIn. and follow Scipher on Twitter, Facebook, and LinkedIn.

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