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NETRAMARK TO INTRODUCE THE TREATMENT ATTITUDE PROFILE (TAP™) SCALE FOR PLACEBO RESPONSE PERSONA DISCOVERY USING ITS NETRA AI TECHNOLOGY AT THE 2024 ASCP ANNUAL MEETING

Data to be presented at ASCP 2024 demonstrate how NetraAI-generated insights were used to develop the TAP™, a novel measure that can be used to identify placebo responders before randomization, resulting in more efficient trials

TORONTO, May 28, 2024 /CNW/ - **NetraMark Holdings Inc. (the "Company" or "NetraMark")** (CSE: AIAI) (OTCQB: AINMF) (Frankfurt: 8TV), a generative AI software leader in clinical trial analytics, is presenting data showing that its TAP™ scale for placebo response persona discovery using the Company's NetraAI technology can help better characterize placebo and drug responders, making it a powerful tool for trialists in their trial design and patient selection strategies. Dr. Joseph Geraci, PhD, Founder, Chief Scientific Officer of NetraMark, will present the data in a poster at the 2024 American Society of Clinical Psychopharmacology (ASCP) Annual Meeting, which is taking place May 28-31 in Miami Beach, Florida.

Placebo response poses a significant challenge in psychiatric clinical trials, often obscuring the true effectiveness of tested interventions. NetraAI's Sub-Insight Learning approach explaining patient populations, was used to generate the TAP™. Combining TAP™ responses with other clinical data allows the NetraAI to provide insights into drug and placebo responses that can be used by pharmaceutical companies to make critical decisions about future trials. Further, recent innovations in the NetraAI have given more power to clinical trialists as it allows for decision augmentation through an intuitive Large Language Model (LLM)-based conversational process.

"Advancements in AI have increased our understanding of the placebo response phenomenon by identifying key variables derived from clinical scales that can be predictive of placebo response," said Dr. Geraci. "The TAP™ incorporates a concise set of questions using insights gained from analyzing clinical scale data with the NetraAI to identify variables that characterize placebo responders. Using this knowledge, trialists can feasibly modify their inclusion/exclusion criteria to minimize placebo response — which can reduce the time, cost, and failure rates for developing urgently needed treatment for psychiatric indications."

The poster (available here on May 29th) describes the development and evolution of the TAP™ through the use of the NetraAI to analyze clinical scale data provided by Takeda Pharmaceuticals from a previously failed Phase 3 trial in bipolar disorder (NCT01467700). The poster also includes results from the analysis of a failed general anxiety disorder clinical trial data set which also contributed to the development of the TAP™, as did other analyses. The bipolar disorder trial, which evaluated 378 patients with acute depressive disorder, did not show separation between the treatment and placebo arms. In the anxiety disorder trial, which was conducted in 332 patients, drug response was very poor and acted much like a placebo except on a small class of patients.

Key findings from the NetraAI analysis of the trial data include:

- In the bipolar disorder trial, the NetraAI model correctly predicted placebo responders (PR) 87% of the time and accurately identified 39/44 drug non-responders (DNRs) and falsely identified 5/44 non-responders.
- The key variables emerging from the NetraAI analysis suggest a strong impact of attitudinal variables including treatment attitude, impact of symptoms, and sleep quality on placebo response.
- The NetraAI model identified eight variables that captured 55 of 73 placebo responders along with six other variables linked to drug response, identifying 10 drug non-responders. Of note, Clinical Trial and Site Scale (CTSS) Question 18 (how signing up for the trial made them feel) was a common factor in both placebo and drug response hypotheses, underscoring its significance in distinguishing between drug effects and placebo responses in the anxiety trial.
- The key variables emerging from the NetraAI analysis of the anxiety disorder trial data suggest a strong impact of attitudinal variables, including sentiment towards medication as well as expectations about the trial, on placebo response.
- The TAP™, which was developed based on insights gained from these analyses, incorporates a wide variety of factors that can be used to characterize placebo response, categorized into the following themes:
    - Symptom Impact and Severity
    - Treatment Perception and Efficacy
    - Treatment Management and Behavior
    - Patient-Doctor Relationship and Clinical Interaction
    - Psychological and Emotional Well-Being
    - General Health and Lifestyle
    - Trial Participation History

"Not only did the NetraAI reveal insights that allowed us to construct the TAP™, but the technology helps pharmaceutical companies understand what variables differentiate their drug from placebo," added Dr. Geraci. "We expect that its use in refining patient selection and trial design will enable trial efficiency with a higher likelihood of detecting treatment effects with smaller sample sizes, greater speed, and lower costs. This is the solution that we expect the biopharmaceutical industry needs to improve clinical trial success."

In addition to the poster presentation, Dr. Geraci and Dr. Larry Alphs, MD, PhD, Chief Medical Officer at NetraMark, will participate in a panel discussion on the use of biomarkers in selecting therapies for patients with psychiatric conditions. During this session Dr. Geraci will also present new results on how recent innovations have allowed NetraMark to provide a powerful new way for clinical trialists to easily enhance their ability to improve their chances for success in future trials. This relies on a true non-trivial augmentation of generative AI with NetraAI's unique core capabilities.

Poster Presentation
Title: Introducing the Treatment Attitude Profile (TAP) Scale for Placebo Response Persona Discovery Using Attractor AI Technologies: Applications in Clinical Trial Patient Enrichment

Date and Time: Wednesday, May 29, 11:15 am - 1:00 pm ET
Location: Salon 4
Poster Board #: W7

Biomarker Panel Discussion / Presentation
Title: Using Machine Learning to Identify Biomarkers for Clinical Trial Enrichment Through the Use of a Sub-Insight Learning Paradigm and Large Language Models

Date and Time: Thursday, May 30, 4:15 pm - 6:15 pm ET
Location: Salon 2

About NetraAI
In contrast with other AI-based methods, NetraAI is uniquely engineered to include focus mechanisms that separate small datasets into explainable and unexplainable subsets. Unexplainable subsets are collections of patients that can lead to suboptimal overfit models and inaccurate insights due to poor correlations with the variables involved. The NetraAI uses the explainable subsets to derive insights and hypotheses (including factors that influence treatment and placebo responses, as well as adverse events) that can significantly increase the chances of a clinical trial success. Other AI methods lack these focus mechanisms and assign every patient to a class, even when this leads to "overfitting" which drowns out critical information that could have been used to improve a trial's chance of success.

About NetraMark
NetraMark is a company focused on being a leader in the development of Generative Artificial Intelligence (Gen AI)/Machine Learning (ML) solutions targeted at the Pharmaceutical industry. Its product offering uses a novel topology-based algorithm that has the ability to parse patient data sets into subsets of people that are strongly related according to several variables simultaneously. This allows NetraMark to use a variety of ML methods, depending on the character and size of the data, to transform the data into powerfully intelligent data that activates traditional AI/ML methods. The result is that NetraMark can work with much smaller datasets and accurately segment diseases into different types, as well as accurately classify patients for sensitivity to drugs and/or efficacy of treatment.

For further details on the Company please see the Company's publicly available documents filed on the System for Electronic Document Analysis and Retrieval (SEDAR).

Forward-Looking Statements
This press release contains "forward-looking information" within the meaning of applicable Canadian securities legislation including statements regarding the potential value of the Company's TAP™ using NetraAI to analyze clinical scale data and help better characterize placebo and drug responders which are based upon NetraMark's current internal expectations, estimates, projections, assumptions and beliefs, and views of future events. Forward-looking information can be identified by the use of forward-looking terminology such as "expect", "likely", "may", "will", "should", "intend", "anticipate", "potential", "proposed", "estimate" and other similar words, including negative and grammatical variations thereof, or statements that certain events or conditions "may", "would" or "will" happen, or by discussions of strategy. Forward-looking information includes estimates, plans, expectations, opinions, forecasts, projections, targets, guidance, or other statements that are not statements of fact. The forward-looking statements are expectations only and are subject to known and unknown risks, uncertainties and other important factors that could cause actual results of the Company or industry results to differ materially from future results, performance or achievements. Any forward-looking information speaks only as of the date on which it is made, and, except as required by law, NetraMark does not undertake any obligation to update or revise any forward-looking information, whether as a result of new information, future events, or otherwise. New factors emerge from time to time, and it is not possible for NetraMark to predict all such factors.

When considering these forward-looking statements, readers should keep in mind the risk factors and other cautionary statements as set out in the materials we file with applicable Canadian securities regulatory authorities on SEDAR+ at www.sedarplus.ca including our Management's Discussion and Analysis for the year ended September 30, 2023. These risk factors and other factors could cause actual events or results to differ materially from those described in any forward-looking information.

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