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InterVenn Biosciences advances glycoproteomics for complex disease therapies

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The company is making strides in clinical decision making and treatment of ovarian cancer with other indications coming in 2020

US based InterVenn Biosciences has announced multiple achievements in its development of AI-enabled glycoproteomics, as it looks to solving difficult challenges in various disease areas of unmet medical need. Over the last 12 months, InterVenn has received positive interim results from its first clinical trial (V.O.C.A.L.) evaluating a new, simple blood test for the care of patients with ovarian tumors; secured partnerships with seven leading cancer research organizations, including the University of Iowa and the Parker Institute for Cancer Immunotherapy, to develop novel approaches in immuno-oncology; and made a freemium version of its proprietary, AI-powered mass spectrometry analysis software, OpenPIP™, publicly available to the research community. In the coming weeks, InterVenn will complete a move to a new facility in South San Francisco, with research laboratories capable of high throughput sample processing to expand the company's repertoire of interrogating additional indications, as well as a CLIA-CAP-accredited facility.

Until now, glycoproteomics has been considered simply too complex to lend itself to discovering and applying meaningful information to help patients, despite its huge promise that we have been aware of for a long time," said Aldo Carrascoso, Chief Executive Officer of InterVenn Biosciences. "We have made it our absolute priority to interface our technology with a number of key institutional and industry players to deploy and validate our array of AI- and deep machine learning-based tools to allow transitioning the powerful realm of glycoproteomics into an actionable armamentarium for patient care and drug discovery. This will enable us to massively accelerate all of our partners', collaborators', and alliances' workflows."

Over the last 15 years, glycobiology has developed into an increasingly solid scientific discipline, based on the seminal work of Professors Carolyn Bertozzi (Stanford) and Carlito Lebrilla (UC Davis), both of whom helped co-found InterVenn and are serving as members of the company's Scientific Advisory Board. InterVenn has demonstrated that combining proteomics with glycomics, along with relevant phenotypical annotations and a powerful bioinformatics approach, affords critical advances in biomarker and target discovery not realized with other technologies. InterVenn's approach to glycoproteomics leverages the power of ultra-high-pressure- liquid-chromatography, coupled-mass-spectrometry for high-resolution, accurate-mass generation of post-translational protein modification data with the prowess of artificial intelligence and machine learning technology to streamline and expedite the processing and analysis of these data. At the same time, InterVenn's algorithms ensure that the vagaries and variabilities inherent in any clinical study - from patient recruitment bias/variability, sample collection, sample processing, all the way to instrument measurements - are minimized, and the results are reproducible. OpenPIP™, the company's AI-enabled mass spec analysis software, dramatically reduces the time and cost of integrating and quantifying mass spectrometry data while increasing the quality of output and interpretation by eliminating observer-based bias.

InterVenn's study investigating its leading product, a clinical decision-making tool for ovarian cancer aimed at distinguishing malignant pelvic tumors from benign ones, with neither compromising diagnostic accuracy nor subjecting women to undergoing potentially unnecessary and harmful surgery, is currently actively enrolling patients in a multicenter, international clinical trial (V.O.C.A.L.) in the U.S., Australia, and Southeast Asia, with interim results indicating that the InterVenn test performs significantly better than the currently most widely used ovarian cancer test, CA 125, in terms of both specificity and sensitivity. InterVenn expects to complete enrollment and receive preliminary data from the V.O.C.A.L. trial in late 2020.

In the fall of 2019, InterVenn added Klaus Lindpaintner, M.D., MPH, FACP, FACMG, to the team as Chief Scientific Officer and Chief Medical Officer, a role in which he will lead all of InterVenn's global scientific operations and clinical affairs. Dr. Lindpaintner is spearheading collaborations with a number of institutional and industry partners with the promise of finding new, actionable diagnostic and therapeutic approaches for a broad spectrum of diseases. Klaus also oversees both InterVenn's Scientific and Medical Advisory Boards, notable members of which include Giuila Kennedy, Ph.D., Chief Scientific Officer and Chief Medical Officer of Veracyte; and Tony Wyss-Coray, Ph.D., Professor of Neurology & Neurological Sciences at Stanford University School of Medicine, among other luminaries.