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PureTech Health plc

PureTech's Akili Announces Results from a Project EVO™ Pilot Study Demonstrating Improved Cognitive Control in Children with Sensory Processing Dysfunction and Attentional Deficits

Results show neurological changes in prefrontal cortex, providing additional evidence of targeted neurological mechanism of proprietary technology platform

Study published by collaborators at the University of California San Francisco

PureTech Health plc ("PureTech", LSE: PRTC), an advanced, clinical-stage biopharmaceutical company, announced results from a *Project: EVO™* pilot study conducted by collaborators at the University of California San Francisco (UCSF) and published in *PLOS ONE*. The study found that Akili Interactive Labs' (a subsidiary of PureTech Health) digital treatment candidate *Project: EVO*™ improved cognitive control test scores of neurotypical children and children with Sensory Processing Dysfunction (SPD) both with and without attention impairments. Importantly, treatment with Akili's *Project: EVO*™ also produced neurological changes in the prefrontal cortex of the brain and improved attention symptoms of children with SPD and inattention/hyperactivity.

Daphne Zohar, Co-Founder and Chief Executive Officer at PureTech Health, said: "At PureTech Health we are committed to exploring and understanding the full potential of our programmes through pilot and mechanistic studies with our academic collaborators. The results from this study are encouraging and positive, as they provide additional support for the targeted neurological mechanism of our proprietary Akili technology platform."

The full text of the announcement from Akili is as follows:

Akili Announces Results from Pilot Study Showing Treatment with Project EVO™ Improves Cognitive Control in Children with Sensory Processing Dysfunction and Attentional Deficits

Results show neurological changes in prefrontal cortex, providing additional evidence of targeted neurological mechanism of proprietary technology platform

BOSTON and SAN FRANCISCO, April 5, 2017 – Akili Interactive Labs, Inc. ("Akili"), today announced results from a pilot study, conducted by collaborators at the University of California San Francisco ("UCSF"), evaluating the efficacy and possible neurological mechanisms of *Project: EVO™,* a digital treatment being developed by Akili, in children with Sensory Processing Dysfunction (SPD) with and without attention impairments compared to typically developing children. Improvements on tests of cognitive control were observed in all groups, but the children with SPD and inattention/hyperactivity showed greater improvement in the Vanderbilt Assessment Scale as well as neurological changes in the prefrontal cortex of the brain. The results, published in *PLOS ONE,* provide additional evidence of a neurological mechanism underlying treatment response, and underscore the potential of a new kind of neurological targeting approach to treat patients based on specific clinical features.

In the open-label pilot study, 57 children received at-home treatment with *Project: EVO* for four weeks and subsequently underwent post-treatment cognitive, behavioural, and neurological assessment. Although all children showed improvement in measures of cognitive control after training, only the children with SPD and inattention showed statistically significant improvements in real world function using the Vanderbilt Assessment ($n=20$; $p<0.001$), a gold-standard parent-rating scale of real-world symptoms and function. Furthermore, a stimulus-locked EEG measure characterising the brain's immediate response to specific stimuli showed robust change in the SPD+IA group ($p<0.001$). After treatment, 33% of this group showed a reduction of parent-reported symptoms large enough that they no longer met the clinical criteria for inattention. Follow-up analyses 9 months later showed maintenance of the parent-reported benefits that correlated with the neurological signal related to how the brain's prefrontal cortex processes and controls incoming sensory information ($p=0.042$).

"These findings are quite exciting given that they both reproduce critical elements of the study of this technology in older adults and suggest that this treatment approach can have powerful effects across the lifespan and in distinct populations with specific cognitive deficits," said Joaquin A. Anguera, PhD, Assistant Professor in the Departments of Neurology and Psychiatry at UCSF and lead author of this study. The prototype technology was originally published as the cover story in *Nature,* showing neurological changes and cognitive improvements in healthy older adults (Anguera et al., 2013; *Nature*).

The trial, which was conducted in two phases, initially assessed cognitive, behavioural, and neurological measurements of 62 children to quantify attentional abilities and the neurological underpinnings of these abilities. This study included a subset of children with SPD (roughly 54% of the sample) who were also stratified by an inattention/hyperactivity based on the Vanderbilt Assessment. The study found that children with SPD and inattention/hyperactivity performed worse at baseline on measures of cognition as well as the neurological measure (midline frontal theta power), compared to typically developing children and the SPD children who did not meet the inattention criteria.

"We're encouraged to see not only the magnitude and duration of what appears to be a meaningful treatment effect, but also continued validation of the targeted neurological mechanism of our technology," said Eddie Martucci Ph.D., Chief Executive Officer of Akili. "We are currently in the midst of a large-scale, randomized, controlled trial in ADHD, and we are excited to continue our clinical research to validate our digital treatments in populations where we can have a meaningful impact."

"Once again, we are reminded by this study that it is critical to assess specific domains of function in our children with neurodevelopmental differences, in this case attention/cognitive control," said Elysa Marco, MD, Associate Professor in the Departments of Neurology, Psychiatry, and Pediatrics at UCSF and an author on the study. "Once an area of challenge is identified, specifically targeting that skill or challenge can make a difference not only in brain activity but also in the classroom."

Akili's *Project: EVO*™ is currently being evaluated in a large, multi-site, randomised controlled trial in patients with paediatric ADHD that may serve the basis of the company's submission to the FDA for clearance as a medical device treatment for the paediatric disorder. The company is developing other

treatment and screening products that are based on the same technology that targets cognitive control to address a significant unmet need in various patient populations with cognitive deficiencies.

Akili and the investigators of the trial are conducting ongoing work to further study attention characterisation and treatment and paediatric cognitive disorders.

About Akili's Products

Akili's technologies are based on a proprietary neuroscience approach developed to target specific neurological systems through sensory and digital mechanics. The company's lead, patent-pending technology platform (used in this trial) is based on cognitive science exclusively licensed from the lab of Dr. Adam Gazzaley at the University of California, San Francisco, and proprietary adaptive algorithms developed at Akili, all built into action video game interfaces. The platform powers both assessment and treatment products, which deploy real-time, adaptive cognitive challenges and interventions, respectively. Both products target the brain's interference processing system (an individual's core ability to process multiple streams of information), a key function underlying cognitive control.

Akili is currently conducting multiple clinical trials of its leading digital medicine platform across a variety of patient populations, including paediatric ADHD, autism spectrum disorder (in collaboration with Autism Speaks), depression, Alzheimer's disease and traumatic brain injury.

About Akili Interactive Labs, Inc.

Akili is building clinically validated cognitive treatments and assessments that are delivered in an action video game interface. Leveraging medical-grade science and consumer-grade software technology, the company is seeking to produce a new type of medical product that can offer safe and effective scalable treatment and better monitoring for patients across a range of mental health and neurological conditions. The company was founded by and is a subsidiary of PureTech Health (PRTC.L), together with leading neuroscientists and game designers. Akili's lead product candidate, *Project: EVO*^{TM}, is currently being evaluated in a pivotal trial in patients with paediatric ADHD that may serve the basis of the company's submission to the FDA for clearance as a medical device treatment for the paediatric disorder. Akili has garnered investment from Shire PLC, Amgen Ventures and Merck Ventures BV, Amsterdam, The Netherlands, a subsidiary of Merck KGaA, Darmstadt, Germany (known as M Ventures in the United States and Canada), and it has strategic partnerships with Pfizer Inc. and Autism Speaks.

PureTech Health plc (PRTC.L) owns 56.5% of the company as of 31 December 2016. This is calculated on a diluted basis, including issued and outstanding shares, options outstanding warrants, , as well as written commitments to issue options, but excluding unallocated shares authorised to be issued pursuant to equity incentive plans.

About PureTech Health

PureTech Health (PureTech Health plc, PRTC.L) is a cross-disciplinary, advanced, clinical-stage biopharmaceutical company developing novel medicines that modulate the adaptive human systems. PureTech's therapies target the dysfunctions in the immune, nervous, and gastro-intestinal systems by addressing the underlying pathophysiology of disease from a systems perspective rather than through a single receptor or pathway. The company is advancing a rich pipeline that includes multiple human proof-

of-concept studies and pivotal or registration studies expected to read out over the next 12 to 18 months. PureTech Health's growing research and development pipeline has been developed in collaboration with some of the world's leading scientific experts, who along with PureTech's experienced team and a stellar board identify, analyse and advance very selectively the opportunities the company believes hold the most promise for patients. This experienced and engaged team places PureTech Health at the forefront of ground-breaking science and technological innovation and leads the company between and beyond existing disciplines. For more information, visit www.puretechhealth.com or connect with us on Twitter @puretechh.

Forward Looking Statement

This press release contains statements that are or may be forward-looking statements, including statements that relate to the company's future prospects, developments and strategies. The forward-looking statements are based on current expectations and are subject to known and unknown risks and uncertainties that could cause actual results, performance and achievements to differ materially from current expectations, including, but not limited to, those risks and uncertainties described in the risk factors included in the regulatory filings for PureTech Health plc. These forward-looking statements are based on assumptions regarding the present and future business strategies of the company and the environment in which it will operate in the future. Each forward-looking statement speaks only as at the date of this press release. Except as required by law and regulatory requirements, neither the company nor any other party intends to update or revise these forward-looking statements, whether as a result of new information, future events or otherwise.

For further information:

PureTech Health

Allison Mead
+1 617 651 3156
amead@puretechhealth.com

FTI Consulting

Ben Atwell, Matthew Cole
+44 (0) 20 3727 1000