



Axcella Enters into Collaboration with CYTOO to Explore Impact of Dysregulated Metabolism on Muscle Physiology

Intend to identify EMM compositions that promote skeletal muscle growth and function across multiple disease contexts

Cambridge, Mass. – October 23, 2019 – [Axcella Health](#) (Nasdaq: AXLA), a biotechnology company pioneering the research and development of novel multifactorial interventions to address dysregulated metabolism and support health, today announced a collaboration with CYTOO aimed at informing the development of new AXA Candidates by leveraging CYTOO's MyoScreen™ muscle-on-a-plate platform. This platform is expected to enable a deeper understanding of how endogenous metabolic modulator (EMM) compositions influence cellular processes governing the maintenance of muscle mass and function.

Skeletal muscle is an essential metabolic organ that is critical for whole-body glucose and protein handling. Dysregulated metabolism causes accelerated muscle wasting and is associated with a variety of pathological conditions from atrophy to liver failure. Muscle wasting results in decreased quality of life, loss of independence, and significant morbidity and mortality in both normal aging and in complex diseases.

“Dysregulated muscle metabolism severely impairs health and is an area with significant unmet need,” said Tony Tramontin, Chief Scientific Officer of Axcella. “Muscle physiology is a key underpinning of our AXA Candidates, including AXA2678 in disuse atrophy and AXA1665 in hepatic encephalopathy, and we believe this collaboration creates the potential for further advances on this front. We are proud to team with CYTOO to further characterize the benefit that EMMs may have on dysregulated muscle metabolism and physiology in a variety of disease conditions.”

CYTOO's MyoScreen muscle-on-a-plate platform uses patients' primary cells to establish culture conditions that mimic the morphology, contractile and metabolic functions of human muscle *in vivo*. MyoScreen enables the generation of metabolic-phenotypic models and allows for rapid, high-throughput and iterative combinatorial screening of Axcella's EMMs with the potential to address metabolic deficits associated with skeletal muscle dysfunction and related complex diseases.

Dr. Luc Selig, CYTOO's CEO, said, “Through its innovative R&D and its non-IND clinical studies, Axcella Health is developing novel insights about the vital role that EMMs play in a variety of metabolic disorders. We are excited to play a role in furthering this important work and exploring the effects that novel EMM combinations may have on skeletal muscle to foster greater health and combat complex diseases.”

About CYTOO

CYTOO is a preclinical stage drug discovery company addressing muscular disorders (NMDs, muscle waste, muscle disuse, metabolic ageing). The company has developed MyoScreen™, a versatile muscle-on-a-plate R&D platform, from patient-derived myoblasts. MyoScreen serves also as a high content and high throughput screening tool to identify drug targets and drug candidates. The platform is open to partnering with biotech and pharmaceutical companies, and has been the starting point of

CYTOO's internal drug discovery program on Duchenne Muscular Dystrophy. CYTOO has offices in Grenoble, France and Bethesda, MD, USA.

About Endogenous Metabolic Modulators

Endogenous metabolic modulators, or EMMs, are a broad family of molecules, including amino acids, which fundamentally impact and regulate human metabolism. Our AXA Candidates are anchored by EMMs that have a history of safe use as food. We believe that, unlike conventional targeted interventions currently used to address dysregulated metabolism, EMM compositions have the potential to directly and simultaneously support and modulate multiple metabolic pathways implicated both in complex diseases and overall health.

About Axcella Health

Axcella is designing and developing AXA Candidates, compositions of endogenous metabolic modulators, or EMMs, engineered in distinct ratios, designed to target and maximize the fundamental role that EMMs play in regulating multiple metabolic functions. Axcella's AXA Candidates are generated from its proprietary, human-focused AXA Development Platform. Axcella believes its expertise and capabilities in EMMs position it to become a preeminent biotechnology company reprogramming metabolism to address a diverse set of complex diseases and support health. Axcella's AXA Development Platform has already produced a pipeline of product candidates in programs targeting liver, muscle and blood. Axcella was founded by Flagship Pioneering. For more information, visit www.axcellahealth.com.

Internet Posting of Information

We routinely post information that may be important to investors in the 'Investors & News' section of our website at www.axcellahealth.com. We encourage investors and potential investors to consult our website regularly for important information about us.

Forward Looking Statements

This press release contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995, as amended, including, without limitation, statements regarding the development potential of our AXA Candidates, including AXA1665 and AXA2678, potential expansion into new therapeutic fields, the ability of endogenous metabolic modulators to impact dysregulated metabolism, health and complex diseases, the potential benefits to Axcella of its partnership with CYTOO and the use of MyoScreen, including identifying new EMM combinations. The words "may," "will," "could," "would," "should," "expect," "plan," "anticipate," "intend," "believe," "estimate," "predict," "project," "potential," "continue," "target" and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. Any forward-looking statements in this press release are based on management's current expectations and beliefs and are subject to a number of risks, uncertainties and important factors that may cause actual events or results to differ materially from those expressed or implied by any forward-looking statements contained in this press release, including, without limitation, those related to the breadth of our pipeline of product candidates, the strength of our AXA Development Platform, the efficiency of our discovery and development approach, the clinical development and safety profile of our AXA Candidates and their health or therapeutic potential, whether and when, if at all, our AXA Candidates will receive approval from the U.S. Food and Drug Administration and for which, if any, indications, competition from other biotechnology companies, our liquidity, our ability to successfully develop our AXA Candidates through current and future milestones on the anticipated timeline, if at all, past results from Non-IND, IRB-Approved Clinical Studies not being representative of future results, and other risks identified in our SEC filings, including our Quarterly Report on Form 10-Q and subsequent filings with the SEC. We caution you

not to place undue reliance on any forward-looking statements, which speak only as of the date they are made. We disclaim any obligation to publicly update or revise any such statements to reflect any change in expectations or in events, conditions or circumstances on which any such statements may be based, or that may affect the likelihood that actual results will differ from those set forth in the forward-looking statements. Any forward-looking statements contained in this press release represent our views only as of the date hereof and should not be relied upon as representing its views as of any subsequent date. We explicitly disclaim any obligation to update any forward-looking statements.

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