

## Executive Summary

Atelerix Life Sciences Inc is a preclinical biotech company developing a platform technology of new drugs targeting unmet medical needs arising from the opioid crisis. This novel drug family, including lead compound ATX-0199 (also called sudaxine), addresses death and morbidity from opioid-induced respiratory depression (OIRD) and other opioid-related conditions. The current approach to the problem of opioid side-effects is to administer opioid receptor antagonists such as naloxone, which can reverse life-threatening side-effects. These, however, carry significant risks and limitations, particularly as they immediately suppress pain control, making them problematic in the surgical setting. Our solution is found within a new platform of small molecule drugs called Active Thiol-Based Compounds (ATBCs) targeted at safely preventing or reversing opioid-induced side effects via a novel molecular pathway, without the risks or limitations of current approaches.

Our lead compound from this family, Sudaxine, is first being targeted at OIRD in the hospital setting, ***reversing respiratory depression while leaving pain control intact.*** There is currently no compound on the market capable of doing this, and the unmet need is well-recognized by practitioners, speeding the prospect of rapid adoption and reimbursement. OIRD is a \$1B market, affecting 46% of all patients administered opioids during and after surgery. We believe targeting OIRD provides an optimized first pathway to FDA approval and markets, speeding value-enhancing clinical proof-of-concept while opening opportunities in unmet medical needs in other opioid and respiratory-related indications.

Existing pre-clinical proof-of-concept data strongly supports the safety and efficacy of sudaxine to reverse opioid-induced respiratory depression, including the critical oxygen imbalance which occurs, while leaving pain control intact. This data is validated by significant on-going support and funding from the National Institutes of Health and a private foundation (Harrington Discovery Institute).

The Atelerix Life Sciences team is experienced in small molecule bio-technology, with business, scientific, clinical and drug development expertise. Co-founders include biotech entrepreneur David Kalergis, JD/MBA Founder and CEO, founder and former Chair of publicly traded Diffusion Pharmaceuticals Inc. (NASDAQ: DFFN); practicing anesthesiologist and technology co-inventor James Bates, MD/PhD, who is joining as Chief Medical Officer; and scientific advisory board members Stephen Lewis, PhD (Case Western Reserve University) and Benjamin Gaston, MD/PhD (Indiana University) both also co-inventors of our technology, as well as drug discovery and development experts. The founders' expertise is supplemented by experienced drug development consultants provided by both the Harrington Discovery Institute, and by RTI, Inc., funded by the NIH's prestigious Catalyze program.

Atelerix holds an exclusive technology option agreement with Case Western Reserve University covering existing and pending patents with planned international scope through PCT filing. These patents include broad claims on therapeutic uses, novel compositions of matter, formulations, assays, and processes.

With the support of our partners, Atelerix is now generating a robust clinical development plan designed to bring sudaxine to human proof-of concept. We have secured a lead investor and are planning a "rolling close" of a \$3.5 million seed round of financing.