

Team name: Astrodepressants

Date updated: 10/10/2019

S1: Title & Elevator Pitch/Headline	<ul style="list-style-type: none"> <li>• Antidepressants Targeting Astrocytes</li> <li>•</li> <li>•</li> </ul>
S2: The problem and who has it	<ul style="list-style-type: none"> <li>• 50% of people with depression do not respond to current antidepressants.</li> <li>• Current generic and branded antidepressants take 3 weeks to exert their effects, often requiring the prescription of other drugs.</li> <li>• All drugs in the market target neurons but there are no drugs targeting other brain cells.</li> <li>• NMDAR antagonist Ketamine has demonstrated rapid antidepressant effects, but side effects and abuse potential limit broad utility</li> </ul>
S3: The solution	<ul style="list-style-type: none"> <li>• Developing antidepressants that target Astrocytes, which are brain cells that activate neurons by releasing neurotransmitters into synapses.</li> </ul>
S4: Product (how it addresses the problem)	<ul style="list-style-type: none"> <li>• Selectively reducing astroglial release of neurotransmitters results in a decrease in NMDAR activity and antidepressant effects, which are as fast as ketamine's but without its side effects.</li> </ul>
S5: Technology	<ul style="list-style-type: none"> <li>• Small molecule (Rx3B) which binds to the target protein, has effects <i>in vitro</i> at nM range and induced antidepressant effects when administered systemically in rats that underwent chronic restraint stress.</li> </ul>
S6: Competing approaches	<ul style="list-style-type: none"> <li>• Esketamine is a version of ketamine that can be administered nasally. It has been approved by the FDA recently, but still requires to be administered by a doctor.</li> </ul>
S7: Traction	<ul style="list-style-type: none"> <li>• Funding: \$700K in non-dilutive grants.</li> <li>• We have published over 7 papers on the role of our target in psychiatric disorders, including depression, anxiety and memory.</li> <li>• We have setup active collaborations on this topic with several labs in Chile, Belgium, Germany and France.</li> </ul>
S8: Team	<p><b>Investigators:</b></p> <ul style="list-style-type: none"> <li>• Dr. Jimmy Stehberg (<i>in vitro</i>, <i>in vivo</i> models).</li> <li>• Dr. Felipe Simon (<i>in vitro</i> screening).</li> <li>• Dr. Danilo González (In silico work; small molecules).</li> </ul> <p><b>Collaborators:</b></p> <ul style="list-style-type: none"> <li>• Fraunhofer IME, Germany.</li> <li>• UGhent, Belgium (Luc Leybaert).</li> <li>• KULeuven, Belgium (Geert Butynck).</li> <li>• UDD, Chile, (Mauricio Retamal).</li> </ul> <p><b>Advisors:</b></p> <ul style="list-style-type: none"> <li>• Nancy Levy</li> <li>• Francisco Chiang</li> <li>• Amanda Wagner</li> </ul>
S9: Closing	<ul style="list-style-type: none"> <li>•</li> <li>•</li> <li>•</li> </ul>