



Fact Sheet

About Oxeia

Oxeia Biopharmaceuticals is a privately held biotechnology company founded in 2014 and based in San Diego. The company is developing drug treatments for concussion and underlying neuro-metabolic dysfunction.

Oxeia's CEO, Dr. Michael Wyand, is a biopharmaceutical executive with over twenty-five years of experience in managing and building successful product- and service-oriented life science companies.

The company was founded by Dr. Vishal Bansal, Kartik Shah and Amit Munshi. Dr. Bansal is the Chief Scientific Officer and Co-founder of Oxeia Biopharmaceuticals, as well as a Director of Trauma Surgery at Scripps Mercy Hospital in San Diego. Kartik Shah is a Co-founder and Director of Oxeia Biopharmaceuticals. He served as its Chief Business Officer until 2019. Amit Munshi is an experienced pharmaceutical executive and a Co-founder of Oxeia Biopharmaceuticals, Inc. Mr. Munshi is the President and CEO of Arena Pharmaceuticals, Inc.

OXE103

Oxeia Biopharmaceuticals is developing OXE103, human synthetic ghrelin, to treat concussions/mTBI (mild traumatic brain injury). OXE103 freely crosses the blood-brain barrier and helps stabilize metabolic and energy brain dysfunction following a concussion. OXE103 uniquely targets the hippocampus region of the brain, an area important for cognition and memory.

Treatment with OXE103 has been shown in numerous animal and laboratory studies to restore normal energy metabolism, increase appetite and reduce the toxic effects of reactive oxygen species that form in low energy states.

Concussions occur from a direct or indirect blow to the head which causes widespread activation of brain cells throughout the brain. This activation results in a profound depletion of energy that is necessary for normal brain function. In addition, the rapid, forceful movement of the brain during impact stretches the wiring of the brain resulting in disruption of information flow between different areas of the brain. If the body is not able to restore normal function

within hours to days of the injury some of this damage may result in long term persistent effects.

Clinical trials

OXE103 has been previously tested in over 300 human subjects as part of prior Phase 1 and Phase 2 clinical studies. The drug has exhibited a strong safety profile thus far with treatment out to 84 consecutive days. Oxeia will be conducting the first trials with OXE103 in concussion and has opened an IND with the US FDA for clinical trials.

Pre-clinical research with ghrelin showed that animals with a brain injury or neurodegenerative disease treated with ghrelin have improved physiomotor function and cognition – in other words, they showed less brain damage after treatment than those receiving no treatment.

Current Phase 2 Studies in Concussion

Oxeia conducted a Phase 2a study with OXE103 with Dr. Michael Rippee, a neurologist at Kansas University Medical Center in Kansas City, Missouri, specializing in concussion management and treating persistent, debilitating symptoms after injury. The trial enrolled subjects within 28 days of injury who were highly symptomatic at screening. The goal of the study was to reduce symptom burden with OXE103 treatment. Measures of cognition and balance were also tracked to provide an objective assessment of recovery. The study was designed in collaboration with leading neurotrauma and concussion experts.

Oxeia plans a Phase 2b study in 2024. The 12-month study will be a randomized, double-blind, placebo-controlled study with participants who continue to have persistent concussion symptoms within 28 days of injury. This study will enroll 160 participants and will take place at numerous sites across the United States. Participants will be treated over 14 days and followed for a period of 60 days. For more information on this study, please visit ClinicalTrials.gov (<https://clinicaltrials.gov/ct2/show/NCT04558346?term=OXE103&cond=concussion&draw=2&rank=1>).