Kinoxis Therapeutics Pty Ltd (Kinoxis) is a private, Australian-based, clinical stage biotechnology company developing first-in-class therapeutics to address the escalating demand for effective treatments for substance use disorders and social dysfunction in neurological and psychiatric disorders.

Kinoxis' development candidates are novel, small molecules that were discovered through a comprehensive medicinal chemistry and screening program at the University of Sydney. Kinoxis' compounds are protected by a comprehensive Intellectual Property portfolio, filed in all major jurisdictions.

The company is backed by Uniseed, Australia's longest running venture fund, and a consortium of sophisticated investors, and secured funding from the US National Institutes of Health National Institute on Drug Abuse for the development of its lead compound to mitigate opioid withdrawal symptoms.

THE EXECUTIVE TEAM

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KINOXIS
THERAPEUTICS

THERAPEUTIC FOCUS

Substance Use Disorders
Increased prevalence of alcohol, illicit and prescription drug abuse represents a considerable treatment challenge for health professionals. In 2018, fewer than 20% of the 21.2 million people in the USA needing treatment for a substance use disorder received any treatment[1]. This is, at least in part, driven by the limited number of approved pharmaceutical treatments (with there being none approved for some substance use disorders), their minimal efficacy, and in some cases poor safety and tolerability. Despite this, medication-assisted treatment remains the recommended first line therapy for many substance use disorders. Consequently, there is an urgent need for more effective treatments.

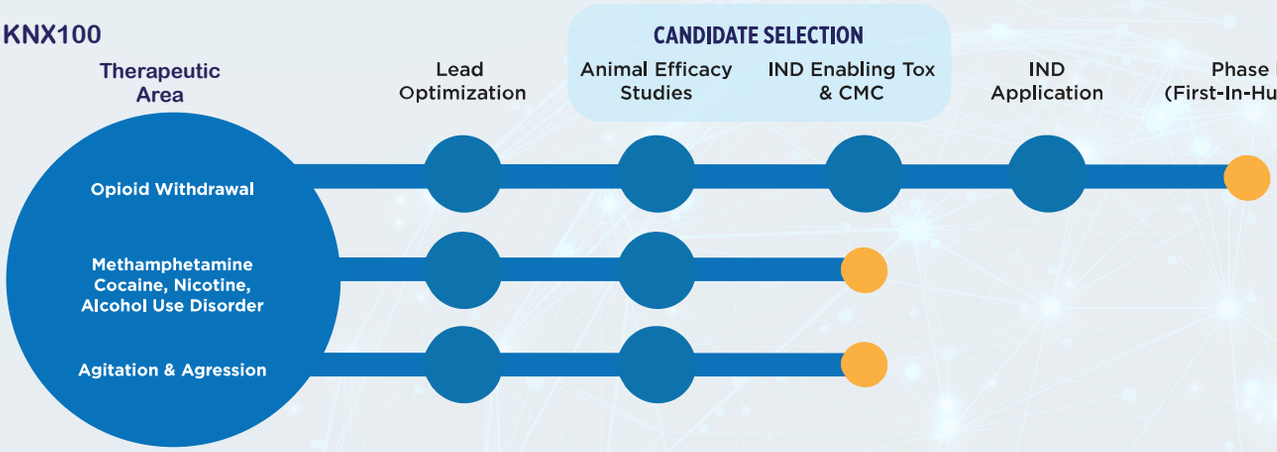
Opioid Use Disorder
Opioids are drugs widely used in the medical management of pain due to their analgesic effects, that are also commonly abused due to their powerful addictive properties. Opioids suppress activity in parts of the brain that control breathing and for this reason carry a significant risk of fatal overdose. Opioid use disorder occurs when an individual using opioids, either recreationally or as part of pain management, develops a problematic pattern of use that causes significant problems or distress. Opioid use disorder is a crisis with major public health implications. In the 12 months to April 2021, more than 100,000 people in the United States fatally overdosed on drugs with over three quarters due to opioids – the single highest recorded death toll during a 12-month period, according to recent data from the US Centers for Disease Control and Prevention[2,3]. The opioid epidemic has contributed to the biggest reduction in life expectancy in the US since WWII[4].

Despite the enormity of the problem, only a limited number of FDA approved pharmacological treatment options are currently available and these are underutilized, with fewer than 10% of people in the USA with opioid use disorder (OUD) receiving an OUD-specific treatment[5]. Overcoming the severe opioid withdrawal syndrome that emerges soon after ceasing or reducing opioid use is the first major barrier to recovery. Opioid withdrawal is characterized by severe psychological disturbances, such as anxiety and craving, and physical symptoms, such as nausea, increased heart rate, and muscle spasms. Kinoxis' KNX100 program aims to help tackle the opioid epidemic by providing a safer, more effective treatment for the mitigation of opioid withdrawal symptoms.

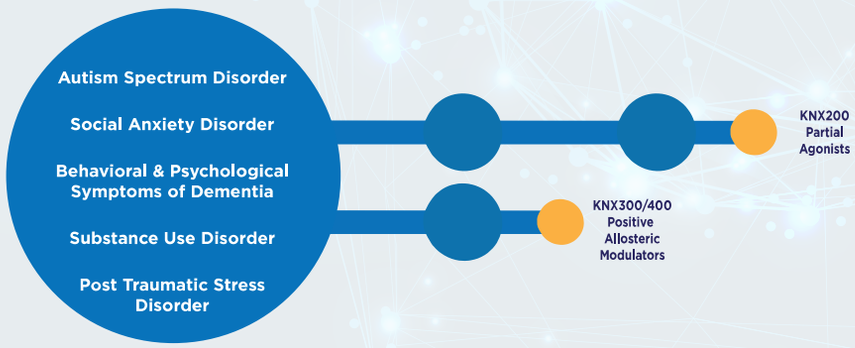
Social Dysfunction
Disrupted social behaviour is a major symptom of many disorders of the brain and mind, including autism spectrum disorder, social anxiety disorder, substance use disorders, schizophrenia, depression, and dementia. In addition to being a significant symptom of these disorders, social dysfunction also presents a barrier to treatment, with engagement with positive social support networks identified as a critical factor in recovery. Despite this, there are currently no approved pharmacological treatments specifically targeting social symptoms in psychiatric and neurological disorders. The Kinoxis research team is discovering and developing therapeutics that specifically enhance social functioning by targeting pathways in the brain involved in social behaviour, with a major focus on the oxytocin receptor. In 2023, we announced a strategic partnership and licensing agreement with Boehringer Ingelheim for the development of oxytocin targeting precision psychiatry treatments to improve the

KINOXIS PIPELINE

KNX100



TRANSDIAGNOSTIC MALADAPTED OXYTOCIN BIOLOGY



In ***partnership*** *with*

Boehringer Ingelheim

KNX100

Kinoxis' lead candidate (KNX100) is being developed for the mitigation of opioid withdrawal symptoms. KNX100 has a novel, undisclosed mechanism of action, and a Phase 1 clinical trial has commenced under a US IND. The company is also exploring other indications for its lead compound, KNX100, as promising preclinical results have been achieved in animal models of cocaine, methamphetamine, nicotine, and alcohol use disorders, as well as models of agitation and aggression.

OXYTOCIN RECEPTOR TARGETING COMPOUNDS

Social dysfunction is a major symptom of many neuropsychiatric disorders, including schizophrenia, depression, and dementia, yet despite the high prevalence and impact of social dysfunction, there are currently no specific pharmacological treatments. Oxytocin is an endogenous neuropeptide playing a critical role in the regulation of social behaviour. Kinoxis and Boehringer Ingelheim are working in partnership to unlock the therapeutic potential of targeting the brain oxytocin system to treat disrupted social behaviour, which is also a barrier to engagement with psychosocial interventions that can be critical to help people living with chronic and complex mental health conditions. Starting with Kinoxis' proprietary oxytocin receptor targeting molecules, the partners will work on a small molecule precision psychiatry approach to address this challenge.

KNX100 Evaluated in 25 Different Animal Behavioural Models

4 Research Institutes

- University of Sydney
- Macquarie University
- Columbia University
- National Institute on Drug Abuse

4 Species

- Mice
- Rats
- Rhesus monkeys
- Baboons

Potent, Dose Dependent Efficacy Signals

- **Methamphetamine use disorder**
- **Cocaine use disorder**
- **Alcohol use disorder**
- **Opioid use disorder**
- **Nicotine use disorder**
- **Agitation & Agression**

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Sources: 1. Substance Abuse and Mental Health Services Administration (2019) 'Key substance use and mental health indicators in the United States: Results from the 2018 National Survey on Drug Use and Health,' HHS Publication No. PEP19-5068, NSDUH Series H-54, 170, pp. 51–58. Available at: https://www.samhsa.gov/data/. 2. Centers for Disease Control and Prevention. Provisional Drug Overdose Death Counts. https://www.cdc.gov/nchs/nvss/vsrr/drug-overdose-data.htm. Accessed May 3, 2021. 3. Centers for Disease Control and Prevention. Press release. https://www.cdc.gov/nchs/pressroom/nchs_press_releases/2021/20211117.htm. Accessed Feb 10 2022. 4. Harper S, Riddell CA, King NB. Declining Life Expectancy in the United States: Missing the Trees for the Forest. Annual Review of Public Health. 2021;42(1):381-403. doi:10.1146/annurev-publhealth-082619-104231. 5. World Health Organisation. (August 4, 2021). Opioid Overdose. Retrieved from https://www.who.int/news-room/fact-sheets/detail/opioid-overdose