



PRESS RELEASE

Chronos Therapeutics partners with Aptuit for addictive behaviour programmes

Oxford, UK, 9 January 2017: Chronos Therapeutics Ltd (Chronos), the private biotech company focused on ageing diseases, brain and nervous system disorders, today announced that they have partnered with a subsidiary of Aptuit Holdings LLC (Aptuit) for services related to Chronos' programme targeting the addictive behaviours of binge eating and alcohol use disorders.

The companies will work together on integrated drug discovery (medicinal and computational chemistry, biology and DMPK) to optimise Chronos' selective orexin 1 antagonists that have shown considerable promise in treating addiction. Chronos will lead the programme and have access to world leading experts at the Aptuit site in Verona, Italy. All intellectual property, know-how, development and marketing rights for the programme will belong to Chronos. Each of the addictive behaviours targeted represents an area of significant unmet medical need, complementing Chronos' additional programmes for the fatal neurodegenerative disease Amyotrophic Lateral Sclerosis (ALS) and fatigue associated with multiple sclerosis (MS).

Dr Huw Jones, CEO of Chronos Therapeutics, commented: *"We are very pleased to partner with Aptuit for our selective orexin 1 programme. The strong expertise that Aptuit Verona has in this area significantly increases our chances of success in developing a truly novel agent for the treatment of addictive behaviours. It further supports Chronos' commitment to developing specific and effective treatments for behavioural brain diseases that have a profound impact on patients' quality of life."*

Dr Jonathan Goldman, CEO of Aptuit Holdings LLC commented: *"We are delighted to partner with Chronos to develop these treatments for patients. Chronos' commitment and in-depth knowledge in this area combines perfectly with our decades of internal expertise in orexin chemistry and biology."*

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Notes to Editors

About Chronos Therapeutics

Chronos Therapeutics Ltd. is a privately held biotechnology company focused on diseases of ageing, brain and nervous system disorders. Chronos has a dedicated laboratory in Oxford, which screens for activity of drugs in brain disease through its proprietary platform, Chronoscreen™.

It has an extensive library of re-purposed molecules showing promise for brain and neurological diseases. The lead compound, RDC5, is being developed for the fatal neurodegenerative disease, Amyotrophic Lateral Sclerosis (ALS).

Chronos recently acquired three new chemical entity (NCE) development programs for CNS diseases. The most advanced programme is initially targeting fatigue associated with multiple sclerosis with the others addressing behavioural and neurodegenerative conditions. Chronos' shareholders include the University of Oxford, Vulpes Testudo and Life Sciences funds, Odey European and Swan funds, a subsidiary of Shire PLC, the Board and Management.

About Amyotrophic Lateral Sclerosis (ALS)

The motor neurone disease Amyotrophic Lateral Sclerosis (ALS or Lou Gehrig's Disease) is a fatal neurodegenerative disease characterised by progressive death of the primary motor neurones in the central nervous system. Symptoms include muscle weakness and muscle wasting, difficulty in swallowing and undertaking everyday tasks.

As the disease progresses, the muscles responsible for breathing can fail, gradually causing dyspnoea or difficulty in breathing. ALS Has an average prevalence of 2 per 100,000. Prevalence is higher in UK & USA than many other countries, up to 5 per 100,000. There are estimated to be over 50,000 patients in the USA and 5,000 patients in the UK with the condition. Mortality rates for ALS sufferers is high with 10 year survival after diagnosis below 10% and average survival of 39 months from diagnosis. There is only one drug currently approved for treatment, riluzole which provides a modest increase in lifespan for ALS patients but minimal improvement in symptoms.

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About Multiple Sclerosis and Fatigue

An estimated 2.3 million people globally have multiple sclerosis according to the Multiple Sclerosis International Federation. Fatigue is the most common symptom of multiple sclerosis (MS). It occurs in 75% to 95% of patients with MS and as many as 40% of patients have described it as the single most disabling symptom of the disease.

There are two major types of fatigue in MS. These two types of fatigue are probably separate problems related to the MS. The first type is a general feeling of tiredness. It may feel as if one has not slept the night before. This feeling may be worse in the afternoons or after activity. People may feel that they are unable to do as many tasks without getting tired as they did before. A second type of fatigue is muscular. In this type, there is increased weakness after repeated activity. Often, this occurs with walking. People may find that they are dragging one leg or are more unsteady.

About Addictive Behaviours

There are a number of addictive behaviours that represent significant unmet medical needs and require novel treatments. Chronos is targeting binge eating, alcohol and nicotine addictions.

Binge eating is an eating disorder where a person feels compelled to overeat on a regular basis through regular "binges" or consumption of very large quantities of food over a very short period of time, even when they are not hungry. The condition tends to first develop in young adults, although many people do not seek help until they are in their 30s or 40s. There is a 1 in 30 to 1 in 50 chance of a person developing binge eating disorder at some point during their life and it can lead to a variety of health problems that can, in extreme circumstances, be life-threatening. Whilst more women suffer from the condition than men, binge eating is not particularly uncommon in men with the prevalence ratio of approximately 1.5 women for every man with the disorder.

Nicotine and alcohol addiction: Addiction involves repeated use of a psychoactive substance (such as nicotine or alcohol) causing a user to be intoxicated with a compulsion to take the preferred substance and often a determination to obtain the substance by almost any means. Addicts also have difficulty in modifying or stopping substance use. They build up tolerance to the addictive substance, sometimes requiring more and more for the same effect and develop withdrawal syndromes when use is interrupted.

Addiction to nicotine via tobacco kills one person prematurely every six seconds and 50% of long term smokers according to World Health Organisation (WHO) reports, with tobacco attributed deaths predicted to rise to 8 million globally a year by 2030. The US Centers for



Disease Control and Prevention (CDC) also notes that about 480,000 Americans die every year from smoking related causes involving cancers (chiefly lung cancer), stroke, heart disease and chronic obstructive pulmonary disease (COPD).

Excessive alcohol use (as caused by addiction or bingeing) has caused 10% of deaths among working-age adults aged 20-64 years in the USA with economic costs in 2010 in the USA alone of \$249 billion. WHO also estimates that harmful alcohol use causes 3.3 million deaths a year, globally. Short term health risks, most often the result of binge-drinking, include accidents, injuries, alcohol poisoning and risky sexual behaviours. Over a longer time excessive alcohol use can lead to chronic diseases including high blood pressure, cancers, mental health and social problems.