Karolinska Development company Umecrine Cognition raises SEK 45 million to advance GR3027, a novel drug candidate for hepatic encephalopathy

STOCKHOLM – November 22, 2016. Karolinska Development's portfolio company Umecrine Cognition AB, today announces the closing of a financing round raising SEK 45 million (US\$4.9 million) in accordance with the company's strategy to develop and commercialize its lead compound GR3027 for the treatment of patients with liver cirrhosis and hepatic encephalopathy. Current investors Fort Knox Förvaring AB, Partnerinvest Övre Norrland AB, Norrlandsfonden and Karolinska Development (Nasdaq Stockholm: KDEV) participated in the financing round.

Details from the Umecrine Cognition press release follow:

Hepatic encephalopathy (HE) is a serious brain disorder and one of the primary complications in acute and chronic liver disease. The condition is caused by the inability of the damaged liver to remove toxins from the blood, leading to hyperammonemia and neuroinflammation. Main symptoms arise in the brain as impaired brain cell function gives the characteristic clinical manifestations of the disease. The most frequent form is associated with liver cirrhosis and leads to progressive impairments in sleep, personality, cognitive and motor function and subsequently may lead to coma and death. There are currently no treatments available that directly target these neurological symptoms, which have serious detrimental effects on the quality of life of both patients and relatives.

Umecrine Cognition's lead candidate GR3027 is a novel GABA_A receptor modulating steroid antagonist (GAMSA) that acts on the neurosteroid enhancement of GABA_A receptor activation. GABA_A receptor activation is a key driver for the neurological symptoms associated with HE and GR3027 was previously shown to reverse the neurological symptoms associated with HE in two accepted disease models.

The company recently announced positive top-line Phase I data which demonstrates lead candidate GR3027 reverses neurosteroid-induced, GABA_A receptor-mediated inhibition of brain function in a human challenge study.

Magnus Doverskog, CEO of Umecrine Cognition, said: "This financing represents a significant confirmation of progress and of our efforts to advance GR3027 to patients with liver cirrhosis and HE. Collectively, our previous findings indicate that GR3027 shows promise as novel treatment for HE, a medical condition with high unmet need. I am very pleased by the continued support from our current investors Karolinska Development, Fort Knox Förvaring AB, Partnerinvest Övre Norrland AB and Norrlandsfonden."

Viktor Drvota, Chief Investment Officer at Karolinska Development, comments: "We are encouraged with the progress Umecrine Cognition has made with GR3027 in HE. This financing achieves a key objective for Karolinska Development to ensure its companies have sufficient funding to reach these development milestones."

KAROLINSKA DEVELOPMENT

As a result of the new financing, Karolinska Development has increased its direct holding in Umecrine Cognition from 59.2% to 66.8% (fully diluted). The financing has no impact on Karolinska Development's Fair value.

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TO THE EDITORS

About Umecrine Cognition AB

Umecrine Cognition, a Karolinska Development (Nasdaq Stockholm: KDEV) portfolio company, is developing a potential therapy that represents a new target class relevant for several major CNS-related disorders. The primary focus is to develop a treatment for life-threatening overt Hepatic Encephalopathy and long-term treatment in minimal Hepatic Encephalopathy in patients with liver disease, a growing area with high unmet medical need. The current lack of therapeutics that directly addresses the neurocognitive signs and symptoms of Hepatic Encephalopathy makes a novel treatment likely to become a major contribution for the treatment of this disorder. For more information, please visit www.umecrinecognition.com

About Karolinska Development AB

Karolinska Development AB (Nasdaq Stockholm: KDEV) is a Nordic life sciences investment company. The company focuses on identifying medical innovation and investing in the creation and growth of companies developing these assets into differentiated products that will make a difference to patients' lives and provide an attractive return on investment to its shareholders.

Karolinska Development has access to world-class medical innovations at leading universities and research institutes in the Nordic region, including the Karolinska Institutet. The Company aims to build companies around innovative products and technologies, supported by experienced management teams and advisers, and co-funded by specialist international life science investors, to provide the greatest chance of success.

Karolinska Development's portfolio comprises 10 companies focusing on the development of innovative treatment for life-threatening or serious debilitating diseases.

The Company is led by a team of investment professionals with strong investment backgrounds, experienced company builders and entrepreneurs, with access to a strong global network. For more information, please visit <u>www.karolinskadevelopment.com</u>