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Kancera reports positive results for fractalkine blocker KAN0440567 in preclinical models of pain caused by anti-cancer drugs

Kancera AB (publ) today reported that the drug candidate KAN0440567 quickly and effectively counteracts the kind of pain that results from chemotherapy and that often prevents effective treatment of cancer. The results also indicate that the Kancera drug candidate inhibits the development of the nerve damage that causes pain.

Kancera, in collaboration with Professor Maccangio at King's College, London, showed that oral treatment with the fractalkine blocker KAN0440567 counteracts pain caused by vincristine. Vincristine is a chemotherapy agent used to treat cancers such as acute lymphocytic leukemia (ALL), acute myeloid leukemia (AML), Hodgkin's disease, neuroblastoma and small cell lung cancer.

Pain resulting from chemotherapy often leads to cancer treatment needing to be reduced in intensity or being interrupted before the desired results are achieved (1). Every year about 1.7 million patients are treated with chemotherapy in the United States, Europe and Japan (2). Approximately 80% (3) of these are affected by nerve injury and subsequent pain and a significant proportion of these will have lasting problems that prevent a normal life. Today there is no effective treatment for this type of nerve damage.

In the Kancera study mice were treated with vincristine twice daily for five days, resembling the clinical protocol that can lead to nerve injury and pain. Oral treatment with KAN0440567, 125 mg/kg twice daily, effectively reduced the onset of this pain. From day one the effect was evident in the KAN0440567-treated animals and on days two to five pain was significantly lower than the control group. The study also showed that KAN0440567 did not affect sensitivity to being touched in the control animals, which supports the idea that the Kancera drug candidate specifically inhibits development of nerve damage.

If these effects are also achieved under clinical conditions, KAN0440567 could contribute to more effective cancer treatment since the desired dosage of chemotherapy can be maintained longer with less side effects in the form of nerve damage. Furthermore, reduced long-lasting nerve problems after successful cancer treatment would result in more patients being able to return to a normal life.

What makes KAN0440567 unique is that it works by preventing a special group of immune cells (monocytes) from infiltrating healthy tissue and causing damage, while other parts of the immune system maintain their protective ability. Thus, KAN0440567 is likely to be effective in several inflammatory diseases, cancer and pain, without seriously affecting the immune system in general.

1. Windebank AJ and Grisold W (2008) *J Per Nerv Syst* **13**: 27-46
2. IMS
3. Sisignano, M. *et al.* (2014) *Nat Rev Neurol* **10**, 694–707

About the Fractalkine project

Fractalkine is an immune regulatory factor, a so-called chemokine, that sends signals via the CX3CR1 receptor, also called G-protein coupled receptor 13 (GPCR13). The level of fractalkine and its receptor, CX3CR1 has been shown to be elevated in many inflammatory diseases, cancer and in chronic pain conditions. Kancera's drug candidate KAN0440567 is the furthest developed drug candidate against CX3CR1 and has been shown to be effective against inflammation and pain in several preclinical disease models. Kancera is now

preparing the project for clinical studies. In the healthy individual, Fractalkine and its receptor regulate migration of immune cells from the blood capillary wall into areas where the immune system is needed. Animal studies show that Fractalkine's receptor is not essential for survival and that important immune functions remain intact despite the lack of receptor. The body of research supports the overall hypothesis that CX3CR1 is more crucial to developing disease than to keeping the individual healthy. The basis for successful development of KAN0440567 lies in effectively addressing local inflammation while maintaining a healthy immune system.

About Kancera AB

Kancera develops the basis for new therapeutics, starting with new treatment concepts and ending with the sale of a drug candidate to international pharmaceutical companies. Kancera is currently developing drugs for the treatment of leukemia and solid tumors, based on blocking survival signals in the cancer cell and on addressing cancer metabolism. Kancera's operations are based in the Karolinska Institutet Science Park in Stockholm and the company employs around 15 people. Kancera shares are traded on NASDAQ First North and the number of shareholders were about 7800 as of October 14th, 2016. FNCA is Kancera's Certified Adviser. Professor Carl-Henrik Heldin, Professor Håkan Mellstedt, and MD PhD Charlotte Edenius are board members and Kancera's scientific advisers.

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