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Kancera comments:

Breakthrough for drug development targeting the Fractalkine system that controls immune cells and cancer cells

Blocking the Fractalkine system has been shown in clinical trials to have the desired effects in humans against intractable forms of autoimmune diseases. The results are in line with the positive effects that Kancera has been able to demonstrate with its own substance blocking the Fractalkine system, KAND567, in several research studies.

Thomas Olin, CEO, Kancera, comments: "The results, which come from the pharmaceutical company Eisai, are very gratifying as they further strengthen our conviction that blocking of the Fractalkine system can serve as the basis for an entirely new class of drugs for the treatment of major diseases. In addition, the results increase the likelihood that Kancera KAND567 can achieve clinical and commercial success. "

Clinical studies have shown that blocking the Fractalkine system significantly reduces the severity of Crohn's disease and rheumatoid arthritis and that treatment in some cases has resulted in a return to normal health (remission). These effects have been demonstrated in patients who do not respond to or tolerate the currently best medicines for autoimmune diseases (anti-TNF therapy). The studies have been performed with an antibody (E6011) (Eisai Co.) against Fractalkine (1, 2).

Fractalkine is an immune regulatory factor that transmits signals through a specific receptor (receiver) on the surface of cells involved in immune and inflammatory processes and in cancer cell proliferation. The antibody E6011, which is given via injection, binds to Fractalkine, preventing it from attaching to its receptor. Kancera's KAND567, which can be given in tablet- or capsule form by mouth, blocks instead the receptor for Fractalkine, thereby stopping the Fractalkine signal in immune and cancer cells.

These two drug candidates targeting the Fractalkine system represent two sides of the same coin, i.e. they affect the Fractalkine system via the transmitter and receiver of the signal respectively. Both antibody and KAND567 are expected to act in the bloodstream to prevent immune cells from penetrating the tissue and causing or maintaining inflammation. KAND567 is expected to have an advantage over an antibody since it is a small molecule that can more easily penetrate tissues outside the blood vessels to exert its effect.

Autoimmune diseases and cancer can be both caused and exacerbated by a failure of immune system function. The human immune system consists mainly of the specific immune system that is trained to attack foreign structures in the body, and the non-specific immune system that quickly, and without requiring training, can go to the attack against foreign bodies. The Fractalkine system belongs to the latter.

Most of today's powerful anti-inflammatory drugs block either large parts of the immune system (e.g. cortisone, anti-TNF, cyclosporine, anti-VLA4) or target the specific immune system (e.g. JAK inhibitors, PD1/L1 inhibitors). These drugs are successful but in a significant proportion of patients they are not effective enough. Moreover, a strong inhibition of the immune system carries with it an increased risk of serious infections and cancer.

Now drugs are being sought that, like Fractalkine blockers, effectively and selectively target the non-specific immune response in humans. The non-specific immune system, acting through immune cells called macrophages, is linked to several serious diseases, including cancer and chronic inflammatory diseases of the gastrointestinal system, joints, nerves and blood vessels (3).

KAND567 and antibodies against Fractalkine have been shown to be effective against a number of autoimmune diseases in preclinical studies. Results in a disease model for multiple sclerosis (4) support the idea that treatment with Kancera's KAND567 produces the desired effect against autoimmune disease. This research indicates that desired treatment effects could be achieved without significant side effects on the specific immune system. If this can be repeated in humans, it provides a competitive advantage over other drugs that act through the immune system.

Kancera studies have also shown that KAND567 can reduce the nerve damage associated with chemotherapy, which can allow for a more effective treatment for cancer by counteracting dose-limiting side effects. Currently there is no effective treatment for this type of nerve damage.

There is additionally reason to investigate whether Fractalkine-blocking drugs can directly attack cancer cells. Several types of cancer cells have namely acquired skills from the non-specific immune system. One of these acquired abilities is to exploit the Fractalkine system in order to spread in the body, just as the immune system cells do (5). If KAND567 can block this ability of cancer cells, it has the potential to prevent or reduce metastasis.

Overall, studies show that blocking the Fractalkine system can represent the basis for a new class of drugs against diseases that are caused or exacerbated by the immune system, including autoimmune diseases and cancer. The results also provide support for the potential of Kancera's KAND567 to become an important addition to the treatment of these diseases and thereby a possible commercial success for Kancera.

The next step for Kancera AB in the development of KAND567 is the implementation of a Phase I clinical study to document the drug's properties and safety in humans.

References

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About Kancera AB (publ)

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 more than 7700 as of January 13th, 2017. 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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