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Press release

MElkin Pharmaceuticals welcomes the breakthrough achieved by its academic collaborators in the knowledge of depression, as well as the promising preclinical data of the PepElk compound in the treatment of depression

Orléans, 2018 May 22nd – MElkin today greets the publication in the scientific journal *Nature Medicine* of the work of academic collaborators, Drs Tzavara, Caboche and Giros, co-founders of the company. This work led by Dr. Tzavara and conducted in collaboration with many international scientists has allowed the identification of the Elk-1 protein as a potential prognostic marker for depression and resistance to current treatments. The publication also reports the promising preclinical results of the drug candidate PepElk in animal models with physio-pathological features of depression.

This work demonstrates the potential role played by the Elk-1 protein in modifying the emotions and behavior characteristic of depression. This intracellular target thus opens up new therapeutic and diagnostic horizons in which MElkin Pharmaceuticals intends to capitalize with the development of its drug candidate PepElk. With its high specificity, this patented peptide (Pepsignal® technology), with the particularity of acting on an intracellular pathway not yet targeted by the drugs currently available on the market. Moreover, because of its high selectivity, PepElk could exhibit limited side effects compared to currently used treatments.

“The publication of these results is important for two reasons: it highlights an innovative target in the treatment of depression, in total disruption with current treatments that have shown their therapeutic limitations. In addition, this work demonstrates the effectiveness of our Pepsignal technology. PepElk is a relevant drug candidate on this new target, particularly suitable for resistant patients” says Fabrice Trovero, CEO of MElkin Pharmaceuticals.

About depression

Depression is a mental disorder and common illness, affecting more than two million people in France every year and affecting men and women of all ages. It is characterized by sadness, loss of interest or pleasure, feelings of guilt or low self-worth, disturbed sleep or appetite, low energy and poor concentration. These problems can become chronic or recurrent, greatly impairing the ability to cope with daily life. At its most severe, depression can lead to suicide. Untreated major depression thus remains a serious public health issue. From an economic point of view, the costs associated with the management of the disease are considerable for society, patients and their families. Depression is the result of a combination of factors. Whatever its cause, depression is not just a state of mind. It is related to long lasting changes in the brain affecting different neurotransmission systems. Neurotransmitters associated with depression include serotonin (5-HT), noradrenaline (NA) and dopamine (DA). Serotonin plays a very important role in mood disorders, especially in anxiety and depression, aggression and impulsivity. From the therapeutic point of view, patients are currently treated with medication and / or psychotherapy. Currently available treatments include selective serotonin reuptake inhibitors (SSRIs), such as fluoxetine (PROZAC®), norepinephrine reuptake inhibitors (NERI), combined reuptake inhibitors serotonin-noradrenaline (SNRI), monoamine oxidase inhibitors (MAOIs), or phosphodiesterase-4 (PDE4). However, many patients do not respond or only partially to

these different treatments (33% of diagnosed patients). In addition, many of these agents take 2-3 weeks or more to elicit a response, so patients must undergo treatments for weeks or months before to know the extent of their response. Traditional therapies can also have significant side effects. For example, more than one third of SSRI patients experience sexual dysfunction. Other problematic side effects include gastrointestinal disorders, often manifested as occasional nausea and vomiting, restlessness, insomnia, weight gain ... The occurrence of side effects often discourages patients from continuing their treatment. Therefore, there remains a need for optimized therapies for the treatment of depression and/or other mood and anxiety disorders.

About MElkin Pharmaceuticals

MElkin is a biopharmaceutical company founded in 2015. The company develops innovative synthetic peptides, invented by two researchers from the Paris-Seine Neuroscience Laboratory of the Paris Seine Institute of Biology (IBPS), Drs Jocelyne Caboche and Peter Vanhoutte. By selectively blocking substrates of interest of the MAP kinase / ERK signaling pathway and associated cellular functions, these peptides have a strong therapeutic potential in oncology (PepFos) and neurology (PepElk). Collaboration with Drs. Bruno Giros and Eleni Tzavara has demonstrated effectiveness of PepElk in treating diseases associated with mood disorders such as depression. These four researchers founded the company with Drs. Fabrice Trovero and John Tchelingerian, experienced biotech entrepreneurs. Using this promising technology to act on previously inaccessible targets, other families of molecules are currently under investigation and should enrich the product portfolio in the treatment of cancer and central nervous system disorders. By continuing the non-regulatory preclinical development of its drug candidates, the company remains committed to identifying commercial opportunities for products or projects in its pipeline. Thus, MElkin pharma plans to validate the partnership or licensing with a pharmaceutical company that will conduct the final clinical trials leading to regulatory approval and marketing.

Contact:

Fabrice Trovero, PhD - CEO
+33 2 38 69 69 53
fabrice.trovero@melkin-pharma.com
Website: www.melkin-pharma.com

Publication:

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