



**“ CarThera’s latest development has been unanimously acclaimed as an innovative new solution for the treatment of brain disorders ”**

Marie Zwarg, healthcare industry lead with Bpifrance

CarThera designs and develops innovative therapeutic ultrasound-based medical devices for treating brain disorders. The company is a spin-off from AP-HP, Greater Paris University Hospitals, the largest hospital group in Europe, and Pierre and Marie Curie University (UPMC). CarThera leverages the inventions of Professor Alexandre Carpentier, a neurosurgeon at AP-HP who has achieved worldwide recognition for his innovative developments for treating brain disorders.

CarThera developed the SonoCloud®, an intracranial ultrasound implant that temporarily opens the blood-brain barrier (BBB). By increasing the permeability of the cerebral blood vessels using low intensity pulsed ultrasound, the concentration of therapeutic molecules that reach the brain can be increased by five to seven times, with no increase in dose or toxicity. A Phase 1/2a clinical trial is underway in glioblastoma, for which treatment options are very limited. The initial results are supported by a paper published in Science Translational Medicine which confirms the safety and therapeutic potential of the SonoCloud device. The ultrasound-induced disruption of the blood-brain barrier is a world first; it offers a new treatment option for a wide range of indications, including Alzheimer’s disease.

CarThera has recently received a grant of €5.7 million (\$6.4m) by Bpifrance on behalf of the French government to support the development and market launch of its SonoCloud® device. The grant will partly finance a Phase 2b/3 study in glioblastoma that will involve around 200 patients at centers in Europe and the United States. It will also partly fund a number of exploratory studies, including one on Alzheimer’s disease, building on the findings from the Phase 1/2a study that paved the way for a broader array of clinical indications. This substantial funding commitment demonstrates significant confidence in CarThera’s team and real interest in its project from industry professionals. It allows the company to pursue its ambitious goals and approach with confidence its next round of fundraising from institutional and corporate funds.

Founded in 2010 by Professor Alexandre Carpentier, CarThera is based at the Brain and Spine Institute (Institut du Cerveau et de la Moelle épinière, ICM) in Paris, France, and has laboratories at the Bioparc Laënnec business incubator in Lyon, France. The company, led by Frederic Sottolini (CEO), works closely with the Laboratory of Therapeutic Applications of Ultrasound (Laboratoire Thérapie et Applications Ultrasonores, LabTAU, INSERM) in Lyon. Since its inception, the company has received support from France’s Ministry of Research, the Ile-de-France region, the Bpifrance public investment bank, Medicen Paris Region and Lyonbiopôle.

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