Press Release
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BioSenic puts Phase IIb ALLOB trial on hold.

Prior efficacy unmatched but excellent safety profile confirmed, timing of ALLOB administration for optimal bone repair to be reevaluated

Mont-Saint-Guibert, Belgium, June 19 2023 – BioSenic (Euronext Brussels and Paris: BIOS), the clinical stage company specializing in serious autoimmune and inflammatory diseases and bone and cartilage cell repair, today announces the decision to suspend its interventional trial on fracture healing, using the ex-Bone-Therapeutics lead product, ALLOB. This decision follows negative results obtained for the primary endpoint in the exploratory Phase IIb trial (ALLOB IIb), which focused on safety and treatment timing efficacy.

The aim of this Phase IIb study was to evaluate the efficacy of administering ALLOB (derived from mesenchymal stem cells) a couple of days after a bone fracture to accelerate fracture healing. In contrast to the previous successful Phase IIa, where ALLOB was administered after 3.5 to 7 months, in 21 long bone fractures with documented delayed- or non-union, early application of ALLOB did not accelerate the fracture healing process. **Lieven Huysse, MD, Chief Medical Officer of BioSenic**, further reports: "the current ALLOB Phase IIb study in 57 patients (randomized 1:1 versus placebo) can confirm the excellent safety profile of ALLOB injections, with no reported serious adverse events related to the experimental treatment". The compilation of the two clinical studies and the pre-clinical data also suggest that the administration of ALLOB, in order to positively influence a complex bone repair process, should be carried out outside the acute early post-traumatic inflammatory period.

In short, ALLOB-treatment remains of potential benefit as an add-on to standard of care, at the right time, to improve recovery from extreme bone damage. This should be of great help in either after trauma or after bone surgeries. After difficult fractures, the rate of late non-union varies with fracture location: tibia is the most likely to be affected by non-union. Failure of bone fracture healing, the real target of our cell repair therapy, occurs in 5 percent to 10 percent of all patients.

BioSenic's clinical activities will now focus on its Phase III cGVHD trial with oral arsenic trioxide (OATO). BioSenic, through the Medsenic company autoimmune disease platform had completed a successful phase II trial targeting cGVHD (chronic Graft vs Host Disease), with a demonstrated efficacy of more than 75 percent on the Full Study Population and 84 percent on the Per Protocol Population. A phase III study is now in the starting blocks to reach the market as quickly as possible, through the framework of an expedite 505(b)(2) FDA regulatory pathway.

"BioSenic has chosen to focus resources on its most promising and advanced asset, the Medsenic OATO autoimmune disease platform. As a result, it can concentrate on the late-stage phase III trial of *oral arsenic trioxide* targeting *chronic graft-versus-host disease. A 505 (b)2 procedure is on track with the FDA," said* **François Rieger, PhD, Chairman and Chief Executive Officer of BioSenic. "***We want to make this new cGvHD treatment available as quickly as possible for patients who currently have no other serious therapeutic alternative. The decision to halt the clinical development on difficult tibial fractures enables BioSenic to add additional resources for the development of the OATO platform and its current indications."*

About BioSenic
BioSenic is a leading biotech company specializing in the development of clinical assets issued from: (i), the allogeneic cell therapy platform ALLOB and (ii) the Arsenic TriOxide (ATO) platform. Key target indications for the platforms include Graft versus Host Disease (GvHD), Systemic lupus erythematosus (SLE), Systemic Sclerosis (SSc) and high-risk tibial fractures.
Following the merger in October 2022, BioSenic combines the strategic positionings and strengths of Medsenic and Bone Therapeutics. The merger also enables Biosenic to add to its innovative cell therapy platform and strong IP for tissue repair protection with an entirely new arsenal of various anti-inflammatory and anti-autoimmune formulations using the immunomodulatory properties of ATO/OATO.
BioSenic is based in the Louvain-la-Neuve Science Park in Mont-Saint-Guibert, Belgium. Further information is available at http://www.biosenic.com.

About BioSenic technology platforms

BioSenic's technology is based on two main platforms:

1) The allogeneic cell and gene therapy platform, developed by BioSenic with differentiated bone marrow sourced Mesenchymal Stromal Cells (MSCs) that can be stored at the point of use in hospitals. Its current investigational medicinal product, ALLOB, represents a unique, proprietary approach to organ repair and specifically to bone regeneration, by turning undifferentiated stromal cells from healthy donors into bone-forming cells on the site of injury after a single local injection. These cells are produced via a BioSenic's scalable manufacturing process. Following the CTA approval by regulatory authorities in Europe, BioSenic has initiated patient recruitment for the Phase IIb clinical trial with ALLOB in patients with difficult tibial fractures, using its optimized production process. ALLOB is currently being evaluated in a randomized, double-blind, placebo-controlled Phase IIb study in patients with high-risk tibial fractures, using its optimized production process, after a successful first safety and efficacy study (Phase 1/2a) on fractured long bones, with late delayed union. The patient recruitment has been halted late February 2023 with 57 patients and the new rules permitted for statistical analysis should allow BioSenic to get the main results of this trial much earlier than anticipated in the original protocol, since they are expected by mid-2023.

2) The Arsenic TriOxide (ATO) platform developed by Medsenic. The immunomodulatory properties of ATO have demonstrated a double basic effect on cells of the immune system. The first effect is the increase of the cell oxidative stress in activated B, T or other cells of the innate/ adaptative immune system to the point they will enter a cell death program (apoptosis) and be eliminated. The second effect is potent immunomodulatory properties on several pro-inflammatory cytokines involved in inflammatory or autoimmune cell pathways. One direct application is its use in onco-immunology to treat GvHD (Graft-versus-Host Disease) in its chronic, established stage. GvHD is one of the most common and clinically significant complications affecting long-term survival of allogeneic hematopoietic stem cell transplantation (allo-SCT). GvHD is primarily mediated by the transplanted immune system that can lead to severe multiorgan damage. Medsenic had been successful in a Phase II trial with its intravenous formulation, allowing arsenic trioxide to be granted an orphan drug designation status by FDA and EMA and is heading towards an international Phase III confirmatory study, with a new, IP protected, oral (OATO) formulation. Moderate to Severe forms of Systemic Lupus erythematosus (SLE) is another selected target, using the same oral formulation. ATO has shown good safety and significant clinical efficacy on several affected organs (skin, mucosae and the gastro-intestinal tract) in a Phase IIa study.

Systemic Sclerosis is, in addition, part of the clinical pipeline of BioSenic. Preclinical studies on pertinent animal models are positive. This gives good grounds to launch a Phase II clinical protocol for this serious disease that badly affects skin, lungs or vascularization, and with no actual current effective treatment.

In addition, BioSenic is developing an off-the-shelf next-generation improved viscosupplement, JTA-004, consisting of a unique combination of plasma proteins, hyaluronic acid - a natural component of knee synovial fluid, and a fast-acting analgesic. JTA-004 intends to provide added lubrication and protection to the cartilage of the arthritic joint and to alleviate osteoarthritic pain (OA) and inflammation. In March 2023, after the identification of new OA subtypes, BioSenic delivered a new post-hoc analysis of its Phase III JTA-004 trial on knee OA with positive action on the most severely affected patient population. This new post-hoc analysis changes the therapeutic profile of the molecule and potentially allows for the possibility of stratifying patients for a new, optimized Phase III clinical study. BioSenic, which does not intend to allocate R&D resources to support the clinical development of JTA-004 and will continue to focus its R&D activities on the development of its autoimmune (ATO) and cell therapy (ALLOB) platforms, is now seeking to collaborate with existing and potential partners to explore options for the future development of JTA-004 based on this new post-hoc analysis.

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