

## **US Patent Issued to NovaSterilis for Supercritical Carbon Dioxide Sterilization of Demineralized Bone Matrix in Combination with Alkaline Earth Metal Compound**

*ITHACA, NY, August 18, 2010* - NovaSterilis Inc., Lansing NY, a leader in the development and commercialization of supercritical carbon dioxide technology for biomedical applications, has been issued US Patent # 7,771,652 B2 for "Combined Use of an Alkaline Earth Metal Compound and a Sterilizing Agent to Maintain Osteoinduction Properties of a Demineralized Bone Matrix"

Building on a growing platform for the sterilization of biomedical materials, NovaSterilis researchers developed a process for the sterilization of demineralized bone matrix (DBM) while introducing an entrainer composed of an alkaline earth metal compound to maintain the osteoinductive properties of this material. DBM is demineralized allograft bone with inherent osteoinductive activity, or the ability of new bone to grow on this material. It is the osteoinductive property of DBM that makes it an excellent substitute for an autograft or bone graft from the patient, reducing the need for an additional wound site and increased patient risk.

Demineralized bone matrices are prepared by acid extraction of allograft bone, resulting in the loss of most of the mineralized component, but retention of collagen and noncollagenous proteins, including growth factors. DBM products are currently not sterilized, since radiation degrades the osteoinductive properties. Moreover, gas sterilization methods may leave residual chemicals that can inhibit the healing process. The current aseptic process used to produce DBM is safe, but requires extensive precaution to maintain a clean product. The ability to terminally sterilize DBM without reducing osteoinductivity would improve patient safety and may improve the manufacturing process.

NovaSterilis currently markets a process for the sterilization of allograft tissue including soft tissue and bone. NovaSterilis identified the need for sterilized DBM, but also recognized the challenges of sterilizing DBM. Through extensive research and development NovaSterilis identified the complementary effect of adding an alkaline earth metal compound, in this case calcium carbonate, into the supercritical carbon dioxide sterilization process that maintained the osteoinductive properties. NovaSterilis is seeking parties interested in licensing this process.

*About NovaSterilis: NovaSterilis currently markets supercritical carbon dioxide terminal sterilization technologies, and equipment built to support applications of their supercritical carbon dioxide technology platform. The supercritical or fluid phase, of CO<sub>2</sub> occurs at low pressure (72.9 atm) and moderate temperatures (31.1° C). Supercritical CO<sub>2</sub> retains advantageous properties of the gas and liquid phases of carbon dioxide making it an ideal fluid for manufacturing processes. The company currently markets the Nova 2200, a 20 liter fully automated supercritical CO<sub>2</sub> terminal sterilization chamber and is developing an 80 liter unit. NovaSterilis, a privately held biotechnology company located in Lansing New York, is the recipient of a 2007 Presidents Green Chemistry Award presented by the Environmental Protection Agency.*

*For more information on NovaSterilis and supercritical carbon dioxide visit [www.novasterilis.com](http://www.novasterilis.com)*

*The foregoing release contains forward-looking statements that can be identified by language such as "produced" and "immediate", for example, or by express or implied statements regarding the value of this technology. You should not place undue reliance on these statements. Such forward-looking statements reflect the current views of management regarding future events, and involve known and unknown risks, uncertainties and other factors that may cause future results with supercritical carbon dioxide technologies to differ from any previous research. There can be no guarantee that SCCO<sub>2</sub> will produce marketed clinical vaccines for sale in any market. Nor can there be any guarantee that the use of SCCO<sub>2</sub> to produce therapeutic vaccines will achieve any particular levels of revenue in the future.*