

Patent improved growth factor technology

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Brookhaven Science Associates, the company that manages the Brookhaven National Laboratory, and Biosurface Engineering Technologies, Inc. (BioSET) of Rockville, Maryland, have been issued a U.S. patent for an improved second-generation technology for designing synthetic peptides that are important for tissue regeneration. These bioactive peptides are designed to communicate growth signals to cells of damaged tissue in order to foster efficient, rapid healing.

BioSET has an exclusive license for producing these peptides, which hold promise for improving the body's healing response in numerous applications of tissue repair. Developed at Brookhaven Lab, these synthetic peptides, known as growth factor analogs, are easier to produce than natural growth factors or growth factors derived from recombinant techniques.

Tom Roueché, BioSET's president, said, "This newly patented technology builds upon our core method for making synthetic biomimetic peptides that we developed with Brookhaven Lab scientists almost a decade ago. We can now make peptides in higher yields, with more purity, and more cost-effectively than we had done previously."

Louis Peña, the principal researcher at Brookhaven Lab who developed the technology with BioSET, added, "This new platform technology will allow us to make multiple variations of peptides, which can lead to numerous applications in tissue repair. For example, bandages can be designed with growth factor analogs to apply to wounds, or coatings for surgical implants can be made for better localized healing. I'm glad that

this technology has progressed so well and may benefit many people with soft-tissue injuries." A soft tissue injury results from damage to muscles, ligaments, or tendons.

BioSET has sublicensed the newly patented technology to Tornier, Inc., a global orthopedic company, to develop synthetic peptides for sports medicine applications, with emphasis on rotator cuff, shoulder, knee, and elbow injuries. The company will develop novel soft-tissue grafts with synthetic human growth factor for orthopedic markets.

"Assessing the role of [tissue regeneration](#) and clinical testing of the new growth factor analogs is the next step as we bring these important new treatments to surgeons and their patients," Roueché said. "A previously patented growth factor analog, B2A, designed to improve bone repair, is currently in clinical trials for spinal fusion of the lower back and we remain very encouraged by the early results of these studies."

The U.S. Department of Energy's Office of Science, the National Institutes of Health, and BioSET funded the initial research to develop this growth factor technology. One of three patents related to this technology issued to BSA and BioSET, the new [patent](#) (US 7,700,563 B2), was issued on April 20, 2010.

Provided by Brookhaven National Laboratory

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