

Application of Salubrinal for Bone Fracture Healing

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Abstract

The long-term objective of this project is to commercialize a novel synthetic chemical agent, salubrinal, for treatment of bone growth and fracture healing. Bone morphogenetic proteins (BMPs) are clinically administered as growth stimulators for bone fracture healing. However, BMPs are not only expensive, but also stimulate ectopic bone formation and potentially induce cancer. A synthetic chemical agent that permits facile storage and administration could reduce costs, and provide longer shelf-life, and better bone healing outcomes. Currently, no synthetic chemical agents as a stimulator of fracture healing are clinically available.

The research team recently identified “salubrinal,” a synthetic chemical agent, as a potential therapeutic stimulator of bone growth and fracture healing. An invention disclosure and a U.S. patent were filed. In this FORCES project, we are examining efficacy of salubrinal using a mouse model of closed tibia fracture. The results strongly indicate that salubrinal can accelerate bone fracture healing.