

A Novel Injectable Solidifying Formulation for Improved Bone Fracture Healing (Yissum)

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[Michael Friedman](#), HUJI, School of Medicine - IMRIC, School of Pharmacy- Institute for Drug Research

Background

The healing of fractures could be a slow process that implies patient suffering and temporary disability, and incurs costs to healthcare, insurance and social security systems. The current interventions for stabilization of complicated fractures improve the ultimate outcomes but do not accelerate the natural healing processes of the bone. There is a need for non-surgical intervention that could potentially accelerate fracture healing processes.

Our Innovation

- Using **injectable polymeric implants** - liquids that solidify in the vicinity of the fracture:
- The solidified implants are expected to perform several functions:
- Isolate the fracture site
- Allow adherence, proliferation and differentiation of mesenchymal stem cells present in the fracture and periosteum
- **Contain and release in controlled manner** locally available drugs that augment bone regeneration, e.g. simvastatin

Advantages

- Non-surgical, Minimally invasive ,First-of-a-kind product in fracture care: a minimally invasive non-surgical solution.
- The formulation is a suitable carrier for various active agents.
- Acceptable viscosity allowing injection via various cannulas
- Immediate solidification upon contact with aqueous surface, e.g. fracture hematoma, tissues etc.
- Pharmaceutically acceptable ingredients
- Regulatory bodies approved drugs - simvastatin etc
- Approved formulation additives - calcium salts, other approved additives

Contact for more information:

Mel Larrosa , VP Business Development Healthcare, +972-2-6586692

Yissum Research Development Company of the Hebrew University of Jerusalem
Hi-Tech Park, Edmond J. Safra Campus, Givat-Ram, Jerusalem P.O. Box 39135, Jerusalem 91390
Israel Telephone: 972-2-658-6688, Fax: 972-2-658-6689