

Novo Biosciences is a regenerative medicine company developing small molecule therapies that reactivate and stimulate innate healing abilities in humans and animals.

Our most recent lead molecule, ZF143, has potential applications ranging from accelerating wound healing to inducing the repair and regeneration of complex tissues and organs.



OUR APPROACH >

Most regenerative medicine therapies currently being developed use stem cells and in vitro bioengineered tissues – both of these strategies must overcome major obstacles before therapeutic use can begin.

At Novo Biosciences, we are accelerating the pace of regenerative medicine by defining the molecular mechanisms that allow animals to regrow lost and damaged tissues and organs throughout their adult lives. The genes underlying these mechanisms are conserved in humans. By identifying and manipulating these conserved molecular pathways, we are able to screen in vivo for small molecules that control their activity with high efficacy and minimal off-target effects.

Biomedical business experts estimate that the market for regenerative medicine in 2012 was \$1.4 billion. By 2025, it's estimated to be a \$20 billion industry. "Regenerative medicine is a market with huge potential. The key to its future lies in the successful approval and commercialization of new products," says pharmaceutical industry analyst Dr. Peter Williamson. Currently there is no drug on the market today that activates our natural regenerative healing processes. ZF143 represents an enormous and untapped approach for activating and harnessing our innate healing and regenerative abilities.

ZF143: Accelerating our power to heal."

ZF143 induces a 2- to 3-fold increase in the rate of repair and regrowth of damaged heart and limb tissue, and corrects genetically induced defects in tissue regeneration. Tissue regrowth is stimulated without altering complex patterning or inducing overgrowth and tumor formation. Tissue repair in mice is enhanced by knockout of the protein targeted by ZF143.

Unique Aspects: Proven to be well tolerated in human and other mammalian species

ZF143 is a readily synthesized natural compound that has undergone extensive pharmacological and toxicological study. Phase 1 clinical trials for unrelated applications have shown that it is well-tolerated by humans with no apparent adverse effects. Effective doses utilized in tissue repair studies are much lower than those tested in patients.

Immediate Goals Characterize the efficacy of ZF143 in accelerating tissue repair in mammialian injury models

Our long term goal is to advance ZF143 into Phase 1 clinical trials of heart repair. As the first step in this goal, we are characterizing the efficacy of ZF143 in stimulating repair of heart injury in newborn and aging mouse models. To accelerate our research goals, we have formed strategic development partnerships with industry and academic leaders and are seeking funding through venture capital, grant funding and business partners.

Executive Team

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The market potential for a drug like ZF143, that speeds healing and tissue regeneration, is nearly unlimited both for human and veterinary applications.