

SYNCHRONIZED RF & HIFEM: ACTIVATION OF MYOSATELLITE CELLS

ACTIVATION OF SKELETAL MUSCLE SATELLITE CELLS BY A DEVICE SIMULTANEOUSLY APPLYING HIFEM AND NOVEL SYNCHRONIZED RF TECHNOLOGY: FLUORESCENT MICROSCOPY FACILITATED DETECTION OF NCAM/CD56

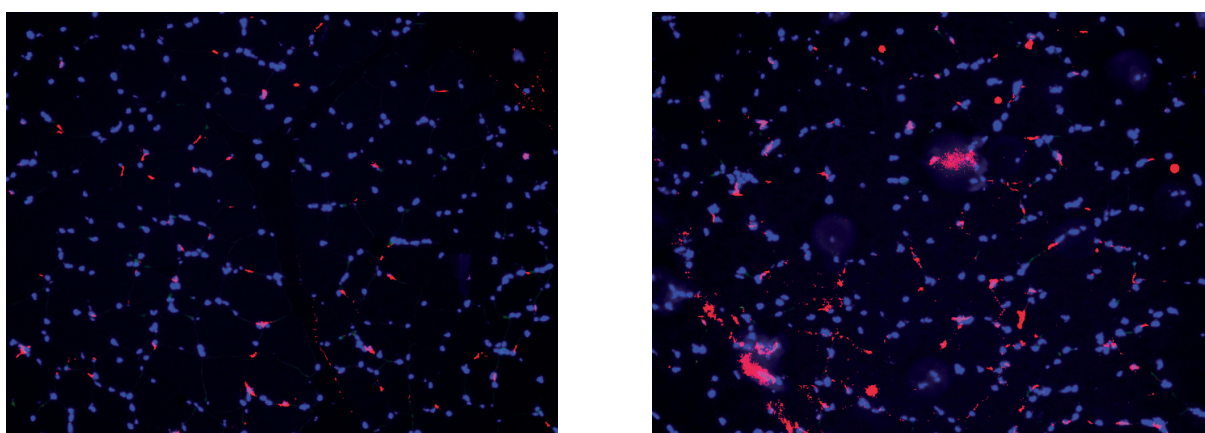
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HIGHLIGHTS

- The levels of **satellite cells** increased by **30.2%** at 2 weeks post-treatment indicating muscle fiber growth and formation of new muscle fibers.
- Histological images showed **hypertrophic fibers** and signs of **newly formed myofibers**.
- The **muscle temperature** was between **40 - 41°C** during the whole treatment.
- The observed **results** are equivalent to **12-16 week** exercise programs.



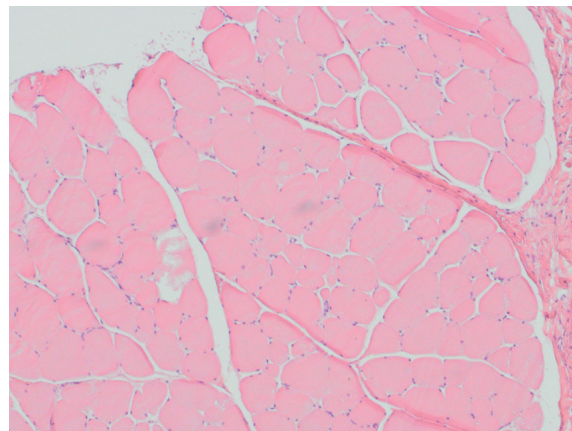
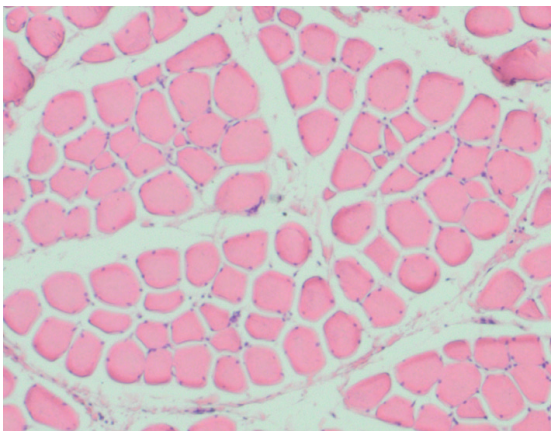
Immunofluorescence images captured at baseline (left) and 2 weeks post-treatment (right) showing an increase in the satellite cell levels. The satellite cells are stained by red color. Blue color represents the myonucleus.

STUDY DESIGN

- 5 Large White pigs (approximately 6 months old).
- All animals received three 30-minute treatments applied to abdomen (1 tx per week).
- Biopsies were collected at baseline, 4 days, 2 weeks and 1 month post-treatment. The **opposite site** of the abdomen was used as a **control area**.
- A total of **275 histological** slices were processed.
- Evaluation included monitoring of satellite cells levels (immunofluorescence), structural changes (histology) and muscle temperature (in-vivo thermal probe measurement).

CONCLUSION

- **Dual field therapy significantly increases** the levels of labeled satellite cells.
- The satellite cells appear to **form new muscle fibers** and incorporate into the existing muscle fibers to **create new myonuclei**.
- **Procedure based on stimulating and heating muscle tissue is safe and does not cause any muscle damage.**



Tissue images collected 1 month after treatments (right) showing pronounced thickening of muscle fibers and increased density of muscle tissue when compared to baseline (left).