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Biodegradable protein patches for healing of chronic wounds

Researchers from Jozef Stefan Institute (JSI), Slovenia, developed protein patches applicable for healing chronic skin wounds rapidly and cost efficiently. Patches are biodegradable – disappearing in the wound, leaving no residue and no scars behind, also enabling a targeted and controlled release of therapeutic substances. License agreements and/or research cooperations are sought to enter veterinary market, while clinical trials are sought to enter human medical market. (<u>click here</u> to see full description).

The story behind:

It all started when private Slovenian veterinary hospital was trying to treat a sick horse with a huge skin wound. There was no success with antibacterial ointments and there were also problems with stem cell treatments, since the cells diffused away from the wound even if applied on collagen filaments. After many unsuccessful attempts the company contacted researchers from JSI and a special protein carrier for stem cells (protein patch) was developed at JSI that finally cured the animal.

Department for Nanostructured Materials (K7) was formed in 2001 as a result of rapid expansion in nanomaterials and nano-technologies. K7 originates from JSI Ceramic department - the world's leading ceramic research facility emerged in the preceding 30-years under leadership of famous professor Drago Kolar. Today K7 employs 40 researchers operating a wide range of sophisticated equipment for development and analysis of materials including biomaterials for medical applications. K7 uses two blocks of analytical and processing equipment: Department's Labs and Centre for **Electron Microscopy and Microanalysis.**



Hydroxyapatite



nO nanocrystals









ongoing national and international projects, ~100 industrial collaborations, ~ 45 M EUR of annual revenues JSI as the most successful Slovenian PRO is also ranked within the top tenth of the most successful research institutions according to European Research Ranking (source: JSI Anual report)..

Having trouble developing 3D stem cell therapies?



JSI K7 offers:

- Research cooperation: e.g. joint applications to EU projects;
- Services: e.g. consulting on specific problems;
- **Technical cooperation:** e.g. finding solutions to specific technical problems;

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