

# APPLICATION FOR TECHNOLOGY TRANSFER

**Aqueous root extract of *Aegle marmelos*  
incorporated decellularized tendon graft**

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Name of the invention: Aqueous root extract of *Aegle marmelos* incorporated decellularized tendon graft

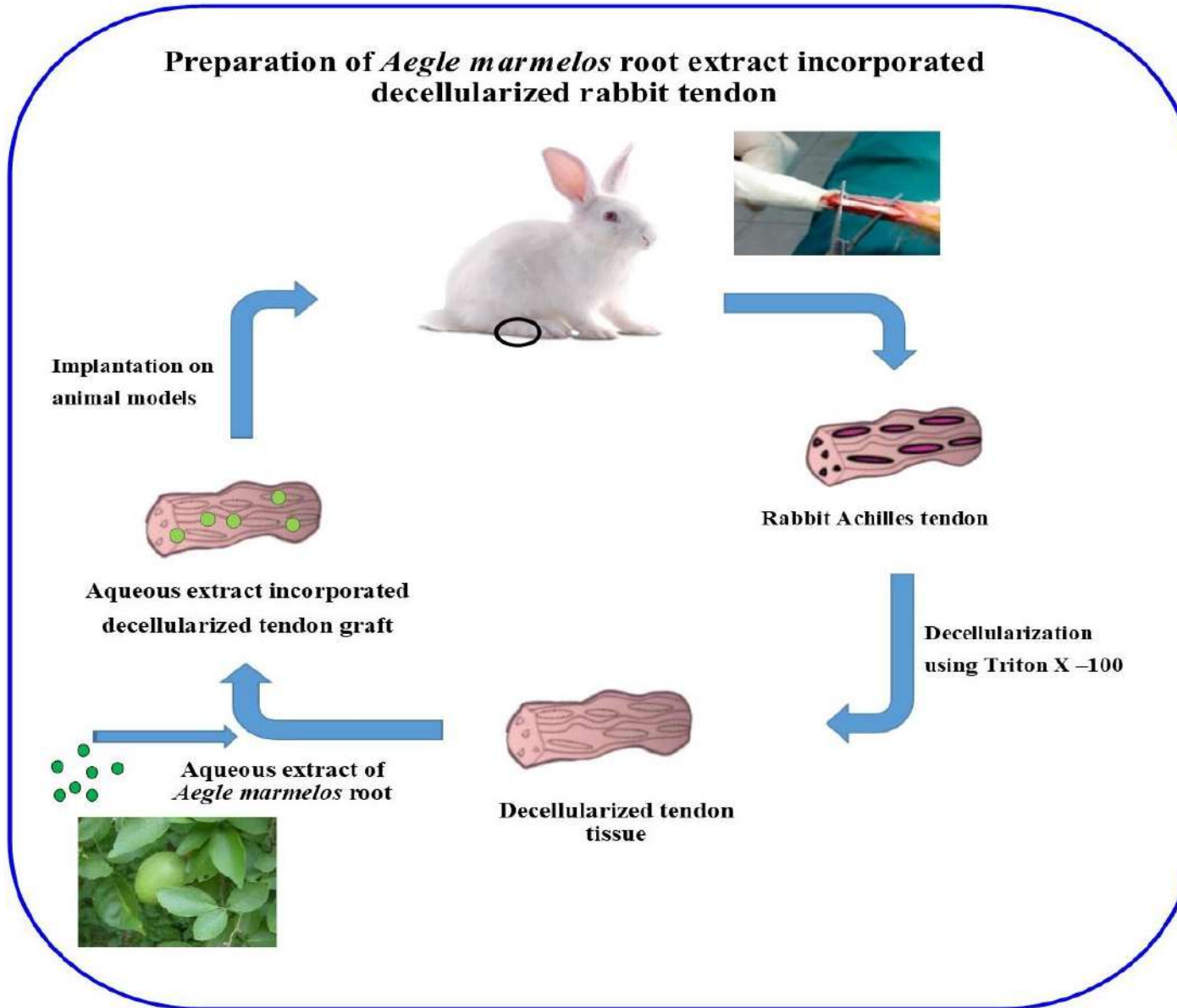
Patent Application & priority date  
/ Patent Number & date of patent:

Patent File number - 201941053476

## Brief description of the invention (Abstract): (1-2 sentences)

Surgical replacement of injured tendon is a problem due to the lack of suitable scaffolds with desired biomechanical and biocompatible properties. Proposed product- *Aegle marmelos* root extract incorporated decellularized tendon -facilitates the production of allografts which are cost effective, non – reactive, bio compatible and non-immunogenic, which can replace current systems that involve expensive synthetic and imported grafts.

# Graphical abstract:



## Novelty of the invention:

- *Aegle marmelos* root extract incorporated decellularized tendon is itself is a novel product.
- Introduction of *Aegle marmelos* root extract in the tendon tissue regeneration. Identification of it's tenogenic, non – reactive, bio compatible and non-immunogenic properties.
- Combination of decellularisation method and incorporation.



Utility of the invention:

## **RELEVANCE TO THE SOCIETY**

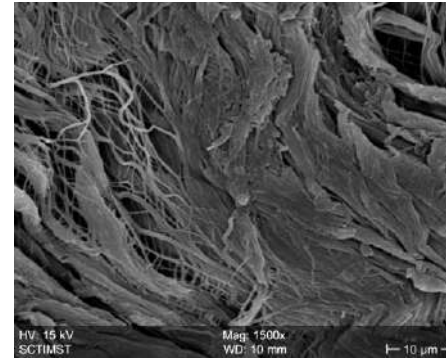
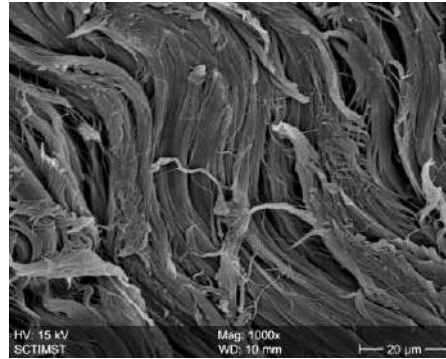
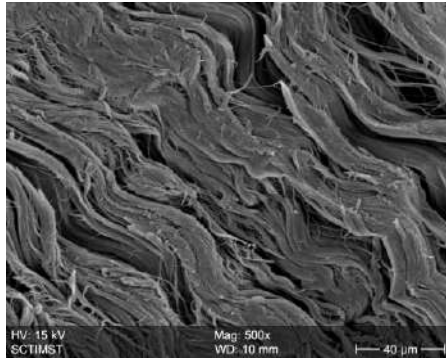
This study will be relevant to the society as it seeks an inexpensive method for the replacement of injured/damaged tendon for athletes, geriatric population etc



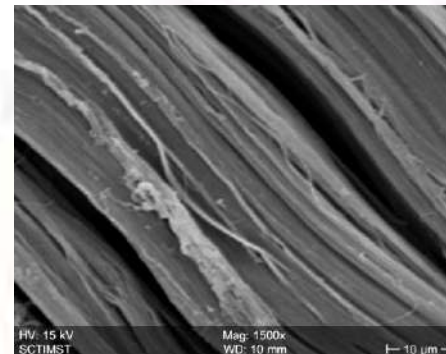
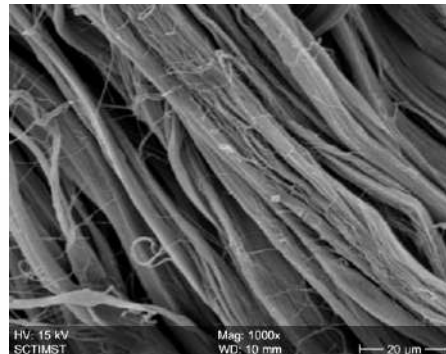
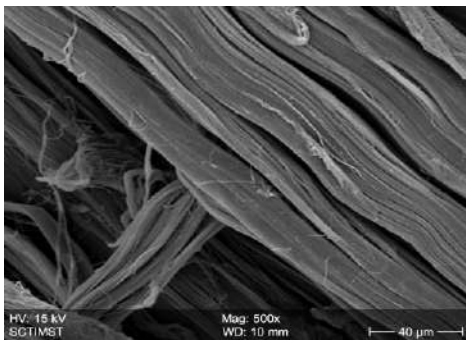
Non-obvious nature of the invention:

- ❖ The process of fabricating an allograft involves a series of complex procedure for the proper retrieval of tendon, decellularisation, extraction of the phytochemical, construction of tissue engineered graft and storage of the same.
- ❖ The invention described involves use of a combination of decellularized tendon, using triton X 100 procedure, and *Aegle marmelos* root extract. This combination produced a new product with enhanced tenogenic, non – reactive, bio compatible and non-immunogenic properties.
- ❖ There was no similar product in the market and such a combination product was not even attempted even in the field of tissue engineering.

# Results: (proof for clause 1) Basic data only



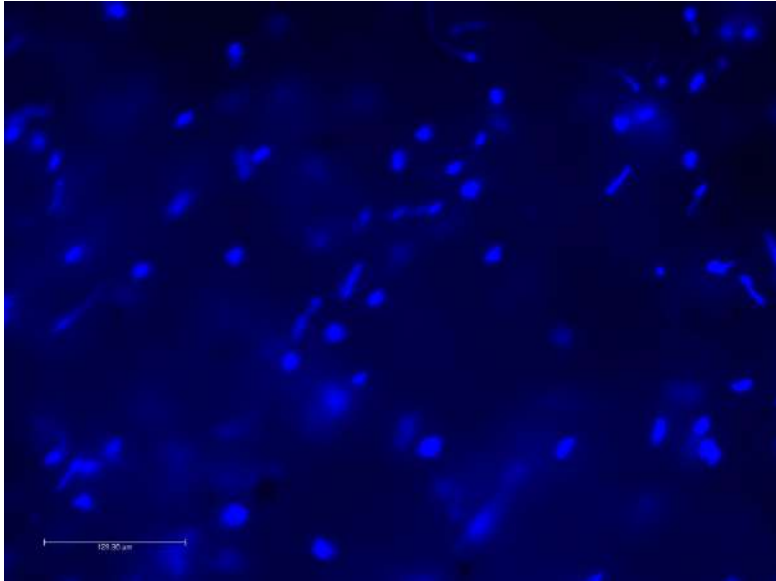
SEM IMAGES OF NORMAL TENDON



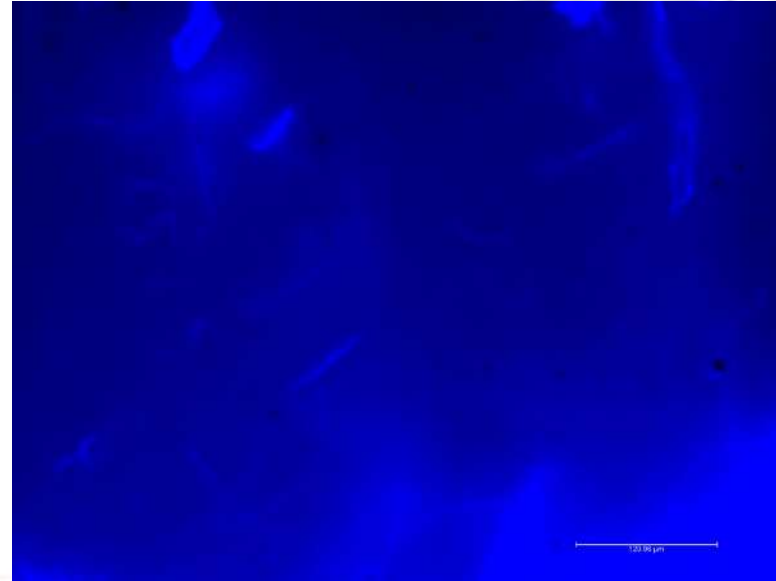
SEM IMAGES OF DECELLULRISED TENDON



## Results: (proof for clause 2)

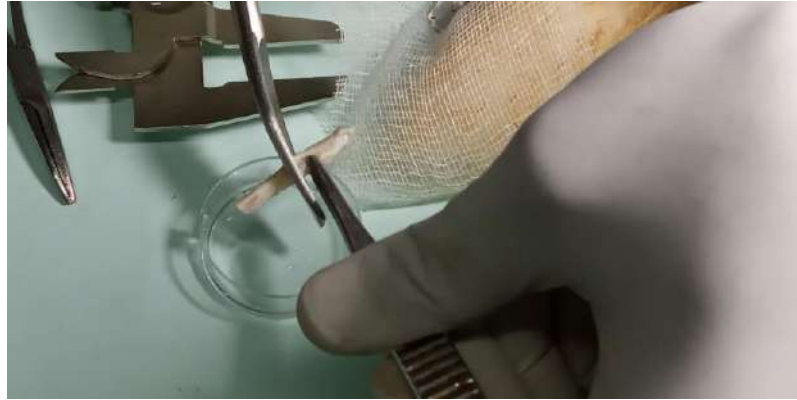


DAPI IMAGE OF NORMAL RABBIT  
TENDON



DAPI IMAGE OF DECELLULARISED  
RABBIT TENDON

# Results: (proof for clause 3)



IMPLANTATION OF TENDON GRAFT PROCEDURE IN RABBIT

Results: (proof for clause 4)



Clauses applied for /protected (for granted patents):  
NA





Fields where the invention finds application:

- The product can be used as graft for tendon replacement in case of tendon injuries,
- The product and concept can be used for further improvement/research in the area of tissue engineering



# THANK YOU

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