

Regenerative medicine Chronic wound-healing treatment

Technology

K1 Dimer (Kringle domain of HGF/SF) as a potent agonist of MET

The development of MET receptor agonists is an important goal in regenerative medicine. Up to now, many studies aiming at developing MET agonists for regenerative medicine focused on the design of NK1 analogs. None of these were sufficiently potent *in vivo* to be of medical interest.

The results combined with structural data led to the development of a K1K1 recombinant molecule. K1 dimer has all the potential as a future drug for regenerative medicine.

Benefits

- The invention is fully original as it builds on new studies (crystallographic and chemical/biological) that have led to a new class of MET agonist built on a dimeric assembly of a single HGF/SF domain, namely the first Kringle domain.
- The invention has both technical and financial advantages over the prior art.
- The technical advantages are that the biological activity of the minimal MET agonist claimed here displays full MET agonist activity whereas other truncated and engineered variants of HGF/SF have partial agonist activity.
- The financial advantage is also substantial because the expression protocol developed and its scalability under fermentation conditions imply that the K1 Dimer is not only a full agonist but the cheapest to produce among competitors' molecules

Applications

- The scope of the invention is the application of the novel MET agonist in **regenerative medicine**.
- HGF/SF is known to play a major role in the prevention of tissue damages or to promote regenerative process:
 - Human health: Chronic wound healing (i.e. Diabete Foot Ulcer) or tissue regeneration (Acute Liver Failure)
 - Veterinary: Wound Healing / Tissue regeneration



Keywords

- Hepatocyte Growth Factor / Scatter Factor
- Wound healing
- Angiogenesis
- Acute Liver Failure



Intellectual Property

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Univer-sity of Lille 1 /
University of Lille 2 / Pasteur
Institute of Lille / CNRS &
University of Pavia (Italy)



Development Status

In vitro POC done.

In vivo POC was performed on a model of Fas-induced Fulminant Hepatitis mice (demonstration model)

In vivo POC on a chronic wound healing model is done in pork



Partnership

Licensing

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