



# Predicting Prognosis in Idiopathic Pulmonary Fibrosis (IPF)

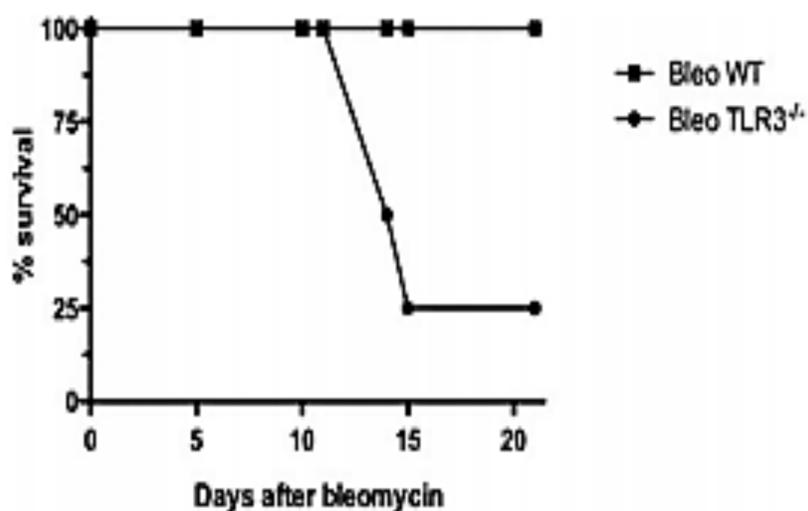
## - TRL3 L412F as a potential biomarker for IPF

### Overview

Idiopathic Pulmonary Fibrosis is a chronic fibrotic lung disorder which is highly unpredictable in its course of progression. Despite therapeutic advances, IPF is a fatal disease with a poor survival rate of 2-3 years. Trinity researchers have identified a potential biomarker of rapidly progressive IPF, Toll-like receptor 3 (TLR3) L412F polymorphism, which may aid in the prediction of prognosis.

### Clinical need and potential market

- There are more than 70,000 people estimated to be suffering from the disease in the US and the EU.
- Almost 15 % of IPF patients with aggressive disease die within 12 months of initial diagnosis.
- The idiopathic pulmonary fibrosis (IPF) therapy market across the US and European Union (EU) will be worth more than \$1.1 billion by 2017.



**Fig. 1 Bleomycin murine model of pulmonary fibrosis**

(TLR3)<sup>2/2</sup> mice experience attenuated survival and increased levels of pulmonary fibrosis after bleomycin challenge.

### The Opportunity

This technology is currently in prototype development and testing. We are seeking private and public funding, as well as academic and industrial collaborations with the view to out-license the technology for co-development and commercialisation.

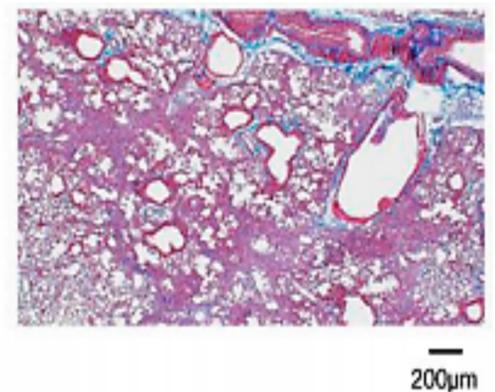
### The Technology

- Trinity researchers have shown the crucial role of defective TRL3 function in promoting progressive IPF.
- TRL3 polymorphism was associated with a significantly greater risk or mortality and accelerated decline in patients with IPF.
- The activation of TLR3 in primary lung fibroblasts in TRL3 L412F-variant patients suffering from IPF resulted in defective cytokine, type 1 IFN and fibroproliferative responses.
- INF-beta restored the TRL3 mediated and proliferative response both in vitro and in animal models.

### Possible Applications

This research will progress with industry to develop a novel biomarker for IPF and, that will have economic benefit for Ireland as well as impact internationally.

- This research will allow the implementation of personalised medicine in clinical trials.
- Allow for faster detection of therapeutic effects, reduce time, costs and aid in the development of more effective therapeutics.
- There is potential for a focused therapy aimed at restoring TRL3 function and improving the prognosis of high risk patients with aggressive IPF.



#### Market

Personalised medicine  
Biomarkers

#### IP Status

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#### Opportunity

Available to License

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