Developing novel therapies for common skin conditions

Curapel Ltd, a spinout company created in 2011 by Dr Neil Gibbs and Dr Cath O’Neill from the Faculty of Medicine at the University of Manchester, is developing treatments for common skin conditions such as eczema and psoriasis. The company has three products in development, and expects to make them available within the next two to five years.

According to Gibbs, “BBSRC has been absolutely instrumental in the development and translation of the technology.”

Both Gibbs and O’Neill received funding from BBSRC which supported the initial research at the University of Manchester. Both also received Follow-on funding from BBSRC to support the translation of their findings. BBSRC funding through the Industry Interchange scheme also enabled a number of industrial interactions.

From skin photobiology to eczema therapy

Gibbs works on the impact of sunlight and ultraviolet radiation on the skin. In particular, he is interested in the natural compounds in skin which absorb UV radiation and the links between these compounds and atopic eczema.

Eczema is a chronic and distressing skin condition that affects up to eight per cent of the UK population and about twenty per cent of young children. Current treatment relies heavily on steroid creams, which are associated with side effects when used for long periods.

However, from his research on the impact of UV on skin, Gibbs was able to identify a possible drug therapy to counteract defects in atopic eczema. Notably, the compound he found had already been classified as Generally Regarded As Safe (GRAS) by drug regulators. “The compound is commercially attractive in that it is safe. Meaning that, with the approval of the regulators, we could move rapidly into a proof-of-concept clinical study” explains Dr Gibbs.

Supported by UMIP, the University of Manchester’s agent for intellectual property commercialisation, the researchers filed patents and began a commercial de-
A potential therapy for psoriasis

UMIP had also been working with Dr Cath O’Neill, another BBSRC-funded Manchester skin biologist who works on epidermal differentiation and barrier function⁷, on the development of another GRAS compound that reduce the proliferation of skin cells. Driven by discussions with clinical colleagues, it was clear that these molecules had potential applications in tackling ‘hyper-proliferative’ skin conditions such as psoriasis; a chronic and distressing disease that affects approximately two per cent of the UK population⁸. With support from BBSRC’s Pathfinder and Follow-on funding schemes, O’Neill advanced this development programme through a pre-clinical human skin organ culture model and the development of pre-clinical formulations. The programme is now approaching initial clinical validation studies.

According to O’Neill, “BBSRC funding has been vital in the development of these GRAS compounds that promise to be safe and effective in the treatment of psoriasis and offers a real alternative to current therapies.”

As a result, Curapel was founded in 2011 to commercialise both treatments. Both the oral eczema and the psoriasis products are expected to enter Phase II clinical studies in the near future. The company is also exploring active compounds that address other common skin problems.

The future

Evidence suggests it usually takes around 17 years for such research to have an impact on public health⁹, so Curapel is making rapid progress. Gibbs attributes this to the company’s approach to finding effective compounds. “Our philosophy has been to develop therapies around actives that are known to be safe,” he says. “All our actives are GRAS compounds, which enables us to rapidly advance our clinical development plan and to satisfy the enormous demand for natural, non-steroidal therapies for these conditions.”

Gibbs has also been awarded a Royal Society of Edinburgh-BBSRC Enterprise Fellow, which has allowed him to continue to develop the company. "It's really challenging developing technology and building a business at the same time," he says. "The University of Manchester is really supportive of these activities and together with the Enterprise Fellowship, which contains an element of formal training from the Entrepreneur Business School, it's great to pick up the skills necessary to see your discoveries advance towards patient benefit. Having the time to devote to the commercial activities is fantastic and means that I am able to react to situations in the time frame that is expected in the industry.”

In 2011 Curapel appointed Mr Terry Sadler to lead Curapel’s commercialisation and funding raising activities. Saddler has experience of developing, founding and building new pharmaceutical companies. "I have been working with the Curapel team over the last year and have been impressed how BBSRC funding has enabled them to advance the technology portfolio to its current level of development," he says. Independent analysts found that the global market for eczema therapeutics was worth around $2,000M in 2010, and is predicted to grow to more than $3,800M by 2018¹⁰.

Curapel is currently in a funding round to continue development of its technology portfolio. Gibbs has found that the BBSRC funding they’ve received provides credibility when talking to potential investors. He says, “As we’re on the road seeking commercial investment, it certainly helps to be able to say that the portfolio development work and proof of concept clinical studies were BBSRC-funded.”
Notes and references

1. Abbreviated from the Italian curare – to heal and pelle - skin
2. [Reference/webpage no longer available – Feb 2016]
3. [Reference/webpage no longer available – Feb 2016]
5. The GRAS (Generally Regarded As Safe) classification is defined by regulators such as the FDA in the USA and the MHRA in the UK.
6. [Reference/webpage no longer available – Feb 2016]
8. [Reference/webpage no longer available – Feb 2016]
9. [Reference/webpage no longer available – Feb 2016]
10. [Reference/webpage no longer available – Feb 2016]