



# Small molecules going big

**IMMUSMOL** Online, an up-and-coming young French company is selling both off-the-peg and tailor-made antibodies that target small molecules. The founder's real passion, however, lies elsewhere – in developing cancer immunotherapy solutions.

When Alban Bessede first set up his company in 2013, the budding immunologist was still working in the lab on his PhD, and it was difficult to find the time and space for a start-up. That wasn't the only tricky part of founding a company. "At first, the business end – legal matters and things like that – just stumped me," Bessede now says with a laugh. But he eventually found the necessary backing and know-how, and is now firmly at the helm of biotech start-up ImmuSmol.

Bessede gained his experience in developing small molecule antibodies while working as a researcher in oncology and neurodegeneration. As he gained a reputation for expertise in the area, requests from fellow researchers from all over Europe started to come in. Some wanted specific antibodies for amino acid metabolites, while others wanted them for saccharides or toxins. "That made me realise that there's a market for this kind of thing," says Bessede. At the same time, he had another dream: to exploit the potential of antibodies against small molecules to develop an approach to targeting cancer.

And that's why ImmuSmol eventually acquired three business areas. Its services and product portfolios are there mainly for



**ALBAN BESSEDE**  
CEO ImmuSmol

**?** How are you going to change the world?

**!** By helping cancer patients to reject their tumours, and thus improve their lives.

profit. A recently-launched online shop sells ready-made antibodies. And if you have a specific small molecule you want to target, ImmuSmol can also provide a custom-made antibody for it.

"Even so, my passion lies in drug development," says Bessede. The company has one project in preclinical development, for the treatment of cancer. "Tumours release small molecules that hijack the immune system, preventing its T cells from attacking cancerous tissue," explains the ImmuSmol CEO. "Our main R&D programme is based on the use of monoclonal antibodies targeting these immunosuppressive metabolites, so as to restore anti-tumoral immune response." Bessede holds the patents for antibodies against metabolites in the kynurenine pathway. L-kynurenine is a metabolite of

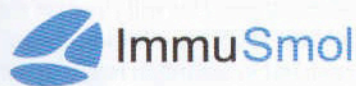
the amino acid L-tryptophan, which is mainly produced by the immunomodulatory enzyme indoleamine 2,3-dioxygenase 1 (IDO1). Overexpression of IDO1 in many solid cancers correlates with a poor prognosis. Metabolites of IDO1 are known to block T-cell response in both *in vitro* and *in vivo* models.

## Influential investor

So how does a scientist who is a researcher at heart acquire the expertise and capital to start a business? Vincent Picq – the founder and Chairman of retail enterprise Schieffer – learned of the young scientist's approach and decided to invest. "He gives me a lot of support in the management of the business," says Bessede. Other investors followed suit. In September 2014, ImmuSmol raised €500,000 for the progression of its immunotherapy programme to human trials. Another financing round is planned for next year, when proof-of-principle is on the table. Eventually, Bessede plans to outlicense the drug, and is already in talks with pharma companies on the current project.

Not all of the company's research has gone off without a hitch. A second project in the pipeline aimed at neuro-inflammatory disease has been put on hold. Its third product, another treatment targeting cancer metabolism, is still in the development phase. The company isn't currently earning any money, but it isn't losing any either. "That's in the plans," says Bessede. "We're right on schedule to show a profit in two years time." In fact, his company has ambitions to become the market leader in the small-molecule antibodies segment within the next few years. And who knows? It just might make it. ■

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### COMPANY PROFILE

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