Evaluate Vantage

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Crisp financing and partnering in gene editing space

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Not bad for a technology that is just three years old. Intellia Therapeutics' $70m series B to support its CRISPR-based drug discovery strategy is the 20th-biggest venture round this year, and represents nearly a quarter of the money raised by venture-backed companies working in this field.

Intellia has joined Editas Medicine and CRISPR Therapeutics as one to watch, having landed substantial funding or partnership validation (see table below). The emergence of cell therapy projects from its collaboration with Novartis will be anxiously awaited, and with crossover funds involved in this round a public float might not be far behind.

Money and deals

Caribou Biosciences spun out Intellia last year, backed by a $15m series A round with Atlas Venture and Novartis as lead investors. As part of the transaction, Caribou gave Intellia an exclusive licence to its CRISPR technology, which emerged out of research carried out at the University of California-Berkeley.

A five-year deal with Novartis followed in January, with the Swiss group taking exclusive rights to programmes using CRISPR to develop CAR-T projects, and joint rights to those developing haematopoetic stem cell therapeutics.

CRISPR picks up pace			
Financing			
Company	*Round*	*Amount*	*Date*
Intellia Therapeutics	Series B	$70m	September 2, 2015
Editas Medicine	Series B	$120m	August 10, 2015
Crispr Therapeutics	Series A tranche/B	$35m/$29m	April 29, 2015
Intellia Therapeutics	Series A	$15m	November 18, 2014
Crispr Therapeutics	Series A	$25m	April 24, 2014
Licensing/collaboration			
Company	*Partner*	*Amount*	*Date*
Abeona Therapeutics	University of Minnesota	not disclosed	June 15, 2015
Juno Therapeutics	Editas Medicine	$25m up front up to $22m in R&D funding	May 27, 2015
AstraZeneca	Wellcome Trust Sanger Institute Innovative Genomics Initiative Thermo Fisher Scientific Broad Institute/Whitehead Institute	not disclosed	January 29, 2015
Novartis	Intellia Therapeutics	not disclosed	January 7, 2015

CRISPR Therapeutics and Editas Medicine are at similar stages of development as Intellia, having successfully achieved a series B round or a deal with a bigger partner. Editas has been impressive, not only scoring a $25m up-front fee from Juno Therapeutics but also landing a $120m series B round last month, the sixth biggest of the year, that also featured a number of the crossover funds that tend to presage an initial public offering.

None of the CRISPR-based companies have got beyond the preclinical stage, but it seems a good bet that many will be operating in the similar spaces of oncology and rare diseases.

Cancer and more?

Editas's deal with the CAR-T specialist Juno is probably the clearest picture of how the technology would be used. The collaboration will combine CRISPR gene editing with Juno's CAR-T and engineered T-cell receptor technologies to develop next-generation immuno-therapeutic cancer agents.

Intellia's deal with Novartis only specifies the CAR-T and stem-cell projects. The Swiss group is the only big pharma with an active involvement in CAR-T, through CTL019 in haematological cancers, so it seems likely that this collaboration would include similar disorders.

But as this is a genomic medicine, rare diseases are a potential target. Earlier this summer, the publicly traded Abeona Therapeutics, formerly known as PlasmaTech Biopharmaceuticals, licensed CRISPR capabilities from the University of Minnesota for treating Fanconi anaemia and other rare blood disorders.

The technology is young and untested as a therapeutic in humans, but as with CAR-T it could evolve quickly. The sector might very well see the first IPOs of CRISPR-based companies in coming months. The amount of venture cash that has come into this space suggest they could have a premiere similar to the CAR-T companies, although this will likely depend more on macroeconomic volatility than on underlying science.

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