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Celgene's recent announcement of the acquisition of Juno Therapeutics has put the company in a good position to be a frontrunner in the chimeric antigen receptor- T cell (CAR-T) space. Celgene stands to benefit from Juno's expertise and ongoing work into addressing concerns surrounding CAR-T, according to GlobalData , a leading data and analytics company.

In January 2018, Celgene announced a $9bn cash buyout of the remaining 90% stake in Juno Therapeutics that it does not already own. This news signals a significant, albeit risky, push for Celgene in the cellular immunotherapies space, where the company sees Juno's lead CAR-T candidate, JCAR017, bringing in $3bn in sales, with a potential FDA approval next year.

Celgene's flagship product, the mega-blockbuster oncology drug Revlimid, is losing patent protection as early as 2022 in the US, and the company is under pressure to offset the anticipated losses in sales. As Celgene has effectively missed the chance at a significant portion of the lucrative PD-1/PD-L1 in oncology, the company is looking outside of that space to reinforce its pipeline.

Cai Xuan, PhD, Senior Healthcare Analyst at GlobalData , comments: "By acquiring Juno, Celgene is hoping to carve out a bigger niche in the CAR-T space, an area where the big players in the PD-1/PD-L1 space have not invested heavily thus far and there is more room to maneuver. With the acquisition, Celgene opens up the possibility of studying its own in-house combination of BGB-A317, the PD-1 drug it acquired from BeiGene, and JCAR017."

With all the possibilities that arise from having a CAR-T asset, it is also important to mention the big risk Celgene is taking by investing so heavily in this class of drugs. Thus far, the commercialization of the CAR-T drugs Kymriah and Yescarta have not been wildly successful. Key opinion leaders in multiple myeloma who were interviewed by GlobalData were generally positive about the future of the drug class in patients who have failed standard therapies and are fit enough to receive CAR-T, but stress that data showing sustainable responses and improved safety will be critical to justify the high price tag of these drugs.

Some of the approaches that Juno is actively exploring include automated manufacturing processes to speed up production of CAR-T cells from weeks to just two days using technology

gained from its 2015 acquisition of the German biotech firm Stage Cell Therapeutics, and "off-the-shelf" CAR-T, which will allow high throughput production of the drug versus the current individualized process that makes the treatment for a single patient at a time.

Xuan adds: "Regardless of the outcome, Celgene's buyout of Juno has certainly put the spotlight on CAR-T as a drug class. It will be interesting to see if this news spurs a round of 'me-too' drug development, similar to what we have seen in the PD-1/PD-L1 space."