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TCR & CAR Engineered T-Cell and NK Cell Therapeutics 2016: Convergence of technologies opens business opportunities beyond CD19 CARTs

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Abstracts

TCR & CAR Engineered T-Cell and NK Cell Therapeutics 2016:

Convergence of technologies opens business opportunities beyond CD19 CARTs

The report TCR & CAR Engineered T-Cell and NK Cell Therapeutics 2016: Convergence of technologies opens business opportunities beyond CD19 CARTs“ describes and analyzes the status of the adoptive cell therapy industry as of August 2016. The report covers autologous and allogeneic engineered chimeric antigen receptor (CAR) and T-cell receptor (TCR) T-cell therapy candidates as well as natural killer (NK) cell and CAR engineered NK cells in research and development by biopharmaceutical companies. Cytotoxic lymphocytes (CTLs), donor lymphocyte infusions (TILs) and tumor infiltrating lymphocytes (TILs) complement the spectrum of the report.

The report highlights and discusses

Company financing;

Business development & financing;

Improvements of CAR T-cell therapy incl. gene editing and universal CARTs;

Engineered TCR T-cells, including TCR target discovery;

The current status of DLIs, CTLs and TILs;

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Manufacturing of T-cells for adoptive cell therapy;

NK cells and CAR engineered NK cells;

International perspective on TCR & CAR T-cell and NK cell therapy; and

Key success factors & convergence of technologies.

The early and impressive clinical results of anti-CD19 CAR T-cell therapy most probably will see confirmation in ongoing pivotal studies in acute lymphoblastic leukemia (ALL) and non-Hodgkin lymphoma (NHL) leading to approval as early as 2017. Supported by Big Pharma money and billions of US$ by private financing rounds, public offerings and partnering money, Novartis, Juno Therapeutics and Kite Pharma are in a close race to be first on market with autologous CD19 CAR T-cell products. Cash-rich Juno and Kite went on a shopping and licensing tour to add numerous technologies like pearls on a string to be prepared for next generation development candidates.

However, clinical experience with CD19 CAR T-cells and other CAR T-cells for hematologic and solid tumors has revealed quite a number of hurdles. Part of them have to be addressed by protocol issues, such as the pre-conditioning chemotherapy problem, or clinical combination studies with checkpoint inhibitors to modulate the tumor micro-environment. But technological solutions are far more required to improve safety and efficacy as well as convenience and manufacturing of CAR T-cell therapies. Another big issue is the lack of strictly tumor-specific targets.

Among the key technologies are gene editing and TCR target discovery. Companies with such capabilities will have a strong position in financing, partnering and corporate development. This report describes the key players in the field and companies with complementary technologies ideal for joint ventures, or better, mergers.

The analytical evaluation in this report is based on retrieval of information about and detailed description of the profiles of 67 companies and 67 cell therapy product candidates. Information was obtained from 193 scientific references (abstracts, full papers, reviews), press releases, financial information, annual reports, presentations and webcasts. All information sources are fully referenced, either as scientific references or by hyperlinks embedded on the source description for online access to the source.

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Who will benefit from this report?

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