TargImmune THERAPEUTICS

Backgrounder

TargImmune Therapeutics AG

About TargImmune Therapeutics AG

TargImmune Therapeutics AG is a privately owned Swiss-based biotechnology company based in Basel and founded in 2016.

TargImmune is dedicated to significantly improving the survival of cancer patients by developing novel targeted anticancer therapeutics which provide a multi-pronged attack against solid tumours.

TargImmune was founded on the basis of ground-breaking academic work from Professor Alex Levitzki's lab at Hebrew University in Jerusalem, Israel. Prof Levitzki received the Wolf Prize in Medicine in 2005 for pioneering signal transduction therapy and for developing tyrosine kinase inhibitors as effective agents against cancer and a range of other diseases. His work was foundational to the development of tyrosine kinase inhibitors like Gleevec and Sutent. TargImmune's research team in Basel works in close collaboration with Prof Levitzki's lab as well as other world-renowned labs in US and Europe.

About the Ta:RNA™ platform

The company leverages its novel Ta:RNA™ proprietary first-in-class platform which harnesses the human body's own powerful antiviral defence responses to selectively target and destroy cancer cells.

The Ta:RNA™ platform uses double-stranded RNA (dsRNA) which is protected and guided within a targeting nanoparticle structure (acting as a non-viral vector) to selectively bind to the target receptor and trigger the destruction of the cancer cells. The Ta:RNA™ platform can be targeted to a wide range of solid tumours over-expressing specific receptors.

Ta:RNA™ belongs to a completely new class of anti-cancer therapeutics known as targeted apoptosis and immune modulators (TAIM). TargImmune's apoptotic immunomodulating therapeutics are designed to be delivered by systemic injection. This allows them to reach distant metastases, which are the leading cause of cancer death.

About TAR001

TargImmune's lead Ta:RNA™-based molecule, TAR001, is its first targeted apoptosis and immune modulator (TAIM). TAR001 targets the epidermal growth factor receptor (EGFR) to deliver Poly-IC, a synthetic dsRNA, to tumours which overexpress this receptor. This project is on track to file an Investigational New Drug Application (IND) / Clinical Trial Application (CTA) in the near future with subsequent entry into man.

Preclinical *in vitro* and *in vivo* studies to date have shown impressive safety data and activity of TAR001 as a single agent, as well as in combination with check point inhibitors. It also shows potential for use in combination with other immuno-oncology agents and classes of anti-cancer agents.

About current targeted cancer therapies

Despite impressive advances in cancer treatments over the past decades, there are still significant gaps across classes of anti-cancer therapies. Traditional targeted therapies are limited by mutations in cancer cells and upregulation of alternative signalling pathways as well as tumour heterogeneity, while immunotherapies are limited by a tumour's immunosuppressive characteristics as well as the ability to evade the immune system.

TargImmune's Ta:RNA™ platform is an evolution of earlier Poly-IC-based therapies, further confirming the role of dsRNA in cancer therapy. Unlike other Poly-IC-based compounds, TargImmune's TAIM therapies are targeted and can be administered systemically rather than by intra-tumoural injection.

About EGFR and solid tumours

Cancer is a devastating disease; however, several therapeutic advances have recently been made, wherein EGFR and its family members have emerged as useful biomarkers and therapeutic targets.

EGFR (also known as ERBB1 and HER1) is a gene that encodes for the epidermal growth factor receptor protein. EGFR is frequently overexpressed in a wide variety of solid tumours including head and neck, lung, colorectal, bladder, ovarian and cervical cancers, and its overexpression has been associated with poor prognosis and outcomes.

Approved therapies targeting EGFR, including monoclonal antibodies, antibody-drug conjugates (ADCs) and tyrosine kinase inhibitors, provide limited survival benefit to patients.

Although many types of EGFR-targeted therapies are under investigation, few are currently approved for clinical use. Despite impressive advances in cancer treatments over the past decades, including in the field of immunotherapy, there are still significant challenges, such as resistance to immune checkpoint blockade therapies.

For more information, please visit www.targimmune.com.