



Achilles Therapeutics Announces Grant of US Patent Covering the Treatment of Patients with an Immunotherapy Targeting Neoantigens Based on Tumor HLA Status

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- Patent broadly covers technology to select neoantigens that are presented by HLA molecules determined to be present in a patient's tumor -
- Patent applies to any modality, including vaccine and autologous T cell therapy -

LONDON, April 25, 2023 (GLOBE NEWSWIRE) -- Achilles Therapeutics plc (NASDAQ: ACHL), a clinical-stage biopharmaceutical company developing AI-powered precision T cell therapies to treat solid tumors, today announced that United States (US) patent 11,634,773 has been granted. The patent covers treatment with an immunotherapy that targets a neoantigen predicted to be presented by a human leukocyte antigen (HLA) allele that has not been lost in a tumor, where loss of HLA alleles is determined using a proprietary sequence-based method. The patent is not limited in terms of the type of immunotherapy used to target the neoantigen, and covers vaccine, cell therapy and antibody modalities. Achilles has an exclusive license to the patent from the Francis Crick Institute, University College London, and Cancer Research Horizons.

"HLA loss is an important mechanism of immune escape in cancer, and neoantigens that are only presented by HLA alleles that are lost in a tumor are unlikely to represent effective therapeutic targets. By determining which specific HLA alleles might have been lost, we can focus therapeutic efforts on neoantigens that are much more likely to elicit a response," said **Dr Sergio Quezada, Chief Scientific Officer of Achilles Therapeutics**. "Crucially, the method described in the patent uses sequencing data that is commonly available for tumors, so both the neoantigen identification and the detection of HLA loss can be performed from the same sequencing data. We are currently using this technology within our PELEUS™ bioinformatics platform for research purposes and look forward to determining how to best use it to guide decisions in our clinical trials and beyond."

The method described in the patent relies on the calculation of an allele-specific copy number for HLA alleles by aligning sequence data to a patient specific reference rather than a standard genomic reference. The patent covers research performed by Achilles co-founder Prof. Charlie Swanton and his academic team, first [published in Cell](#) 2017¹.

About Achilles Therapeutics

Achilles is a clinical-stage biopharmaceutical company developing AI-Powered precision T cell therapies targeting clonal neoantigens: protein markers unique to the individual that are expressed on the surface of every cancer cell. The Company has two ongoing Phase I/IIa trials, the CHIRON trial in patients with advanced non-small cell lung cancer (NSCLC) and the THETIS trial in patients with recurrent or metastatic melanoma. Achilles uses DNA sequencing data from each patient, together with its proprietary PELEUS™ bioinformatics platform, to identify clonal neoantigens specific to that patient, and then develop precision T cell-based product candidates specifically targeting those clonal neoantigens.

Forward Looking Statements

This press release contains express or implied forward-looking statements that are based on our management's belief and assumptions and on information currently available to our management. Although we believe that the expectations reflected in these forward-looking statements are reasonable, these statements relate to future events or our future operational or financial performance, and involve known and unknown risks, uncertainties and other factors that may cause our actual results, performance, or achievements to be materially different from any future results, performance or achievements expressed or implied by these forward-looking statements. The forward-looking statements in this press release represent our views as of the date of this press release. We anticipate that subsequent events and developments will cause our views to change. However, while we may elect to update these forward-looking statements at some point in the future, we have no current intention of doing so except to the extent required by applicable law. You should therefore not rely on these forward-looking statements as representing our views as of any date subsequent to the date of this press release.

¹MacGranahan et al., 2017, *Cell* 171, 1-13

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