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AVA-NextGenMonoclonals™ antibody study published in PNAS

Chronic Lymphocytic leukemia (CLL) is a disease of the blood forming cells and represents the most frequent type of leukemia in adults. Current treatment consists of chemotherapy and/or treatment of patients with antibodies targeting B cells, the cells responsible for leukemia formation. However, these treatments are unable to distinguish between healthy and leukemic cells, thus compromising the patient's immune system, a severe side effect.

The research team around Prof. Hassan Jumaa, medical director of the Institute of Immunology at the University Clinic Ulm, has identified a recurrent molecular alteration on CLL cells, which does not occur on healthy B cells. A variant of the B cell Antigen Receptor, termed IGLV3-21 R110, has been identified as a unique biomarker for aggressive CLL. Importantly, the researchers found that the R110 variant occurs in up to 20% of all cases of CLL and is displayed on the cell surface, making it easily available for detection and attack. Based on the patented AVA-NextGenMonoclonals™ platform, Prof. Jumaa's team was able to develop precise diagnostic and therapeutic monoclonal antibodies against the R110 variant. The current study confirms the enormous diagnostic potential of AVA-NextGenMonoclonals™ antibodies for the detection of CLL. The accuracy of the diagnosis was verified in four independent patient cohorts.

In the future this molecular tool will allow for rapid and reliable diagnosis of patients, a major improvement over current DNA sequencing diagnostics, which takes several days. Dr. Marcus Dühren-von Minden, AVA LifeScience CSO further adds: "Using AVA-NextGenMonoclonals™ antibodies not only improves turn-around time in diagnostics but may at the same time deliver a tailored therapeutic agent, which is leukemia-specific, targeting only disease cells while sparing healthy B cells. This specificity is a major advantage over currently applied therapies and promises to relieve the burden of severe side-effects in patients."

About AVA LifeScience

AVA LifeScience is a young development company located in the BioMedRegion Freiburg. It has an outstanding expertise in research and business. Ulrich Birsner, CEO and co-founder was not only laboratory head under Prof. Georges Köhler, but also science manager, CEO and founder of GeneScan Europe. AVA LifeScience is partner of Ulm University and the Institute of Immunology headed by Prof. H. Jumaa. Dr. M. Dühren-von Minden, CSO and co-founder of AVA LifeScience, is a former laboratory head in the department of Prof. H. Jumaa. AVA LifeScience brings technologies to life – made for precision medicine - based upon highly-specific antibodies.

Link to the original publication: <https://www.pnas.org/content/early/2020/02/10/1913810117>

Additional Information

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