

# MEASURING sIL-2R LEVELS IN INTERSTITIAL LUNG DISEASE.

Diagnosis & monitoring.

Tecan Journal Article.



**St Antonius Hospital in Nieuwegein, the Netherlands, uses a soluble interleukin-2 receptor (sIL-2R) ELISA from Tecan in the investigation, management and monitoring of interstitial lung disease. This easy-to-use assay is the world's first IVDR-compliant ELISA for the quantification of sIL-2R levels, and is supplied complete with the internal controls necessary to provide reliable measurements and distinguish between different types of interstitial lung disease.**

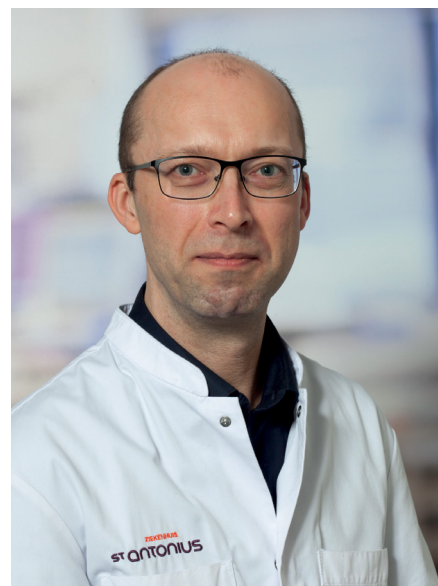
IL-2 is a cytokine that plays a pivotal signaling role in the immune system, regulating the activity of white blood cells. Soluble IL-2 receptor (sIL-2R) is secreted following T cell activation, so the quantification of this marker is an extremely useful tool in the assessment, management and prognosis of a broad spectrum of diseases, including interstitial lung disease, hemophagocytic lymphohistiocytosis, granulomatous diseases, autoimmune diseases and malignant diseases.

St Antonius Hospital - the largest not-for-profit, non-academic teaching hospital in the Netherlands - quantifies sIL-2R for the assessment and long-term follow-up of patients with interstitial lung diseases, largely sarcoidosis. Bob Meek, Medical Immunologist at St Antonius Hospital, explained: "Our hospital is an interstitial lung diseases centre of excellence, meaning that we not only diagnose and treat the condition, but also provide long-term follow-up for patients, usually every three to six months, or sometimes annually. During this process, it is very important to distinguish between T cell-mediated interstitial lung disease and other

inflammatory-related causes, or even non-infection or non-inflammation sources, such as fibrosis. sIL-2R is an incredibly helpful inflammatory marker that allows us to distinguish between different types of interstitial lung disease, and monitor disease activity and treatment efficacy in these patients."

Bob continued: "We have performed this type of testing for sIL-2R for 15 to 20 years. The market was previously dominated by two assays - one ELISA-based platform and one chemiluminescent immunoassay (CLIA) - but there were many challenges with both tests. We initially used the ELISA, but it did not have any controls, so it was very difficult to check the quality of the assay without creating a very elaborate quality control process. This also meant that there was a lack of standardization between sites. Following further issues with the ELISA, we reached a pivotal point, where we needed to decide whether to continue with this method or switch to the CLIA approach. The disadvantage of changing to a CLIA is that it operates with a different measurement unit, and a lack of consistency between methods would hamper the long-term follow-up

of patients. There is a conversion factor that can be applied, but many doctors were not happy with this. In addition, we routinely perform ELISAs for a wide range of purposes, so it was more economical for us to continue using the equipment we already had, rather than having to make a large capital outlay for one CLIA application."



Bob Meek, Medical Immunologist at St Antonius Hospital

"Fortunately, it was around this time that IBL International - now part of the Tecan Group - developed its **sIL-2R ELISA**, which comes with its own internal controls and could be easily integrated into our laboratory workflow," Bob added. "It is now certified compliant with the **In Vitro Diagnostics Regulation (IVDR)** in Europe, and has a comprehensive manual that provides background information into the assay, its components and how it works. The internal controls also provide the ability to quickly and easily check that the assay has run without any issues, helping to guarantee the long-term stability of results, which is incredibly important for patient follow-up."

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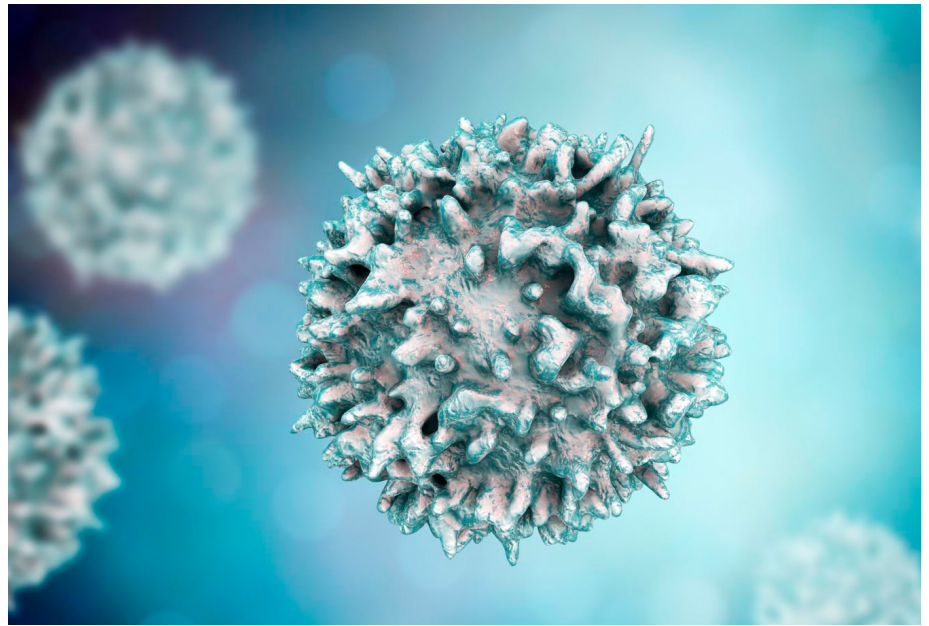
**"With Tecan's sIL-2R ELISA, we now have a validated, robust assay for the long-term management of patients [with interstitial lung disease]."**

For more information about St Antonius Hospital, visit [www.antoniusziekenhuis.nl](http://www.antoniusziekenhuis.nl)



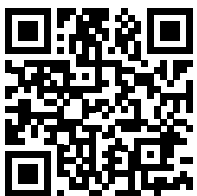
“The level of sIL-2R increase depends on the extent of inflammation, so obtaining reproducible measurements is important for patient management. The wide dynamic range of the assay enables us to detect both low and elevated levels - which may range from 15-44 U/ml in healthy patients to more than 300 U/ml in sarcoidosis patients - in one test. It requires only one dilution of serum samples, whereas our previous ELISA required two dilutions to get the higher values into the measurement range, saving time and resources. On the other end of the scale, the assay can also reliably detect values in the lower range, which is important for patients that have mild interstitial lung disease.”

“The application of sIL-2R testing for interstitial lung disease is significantly underreported. sIL-2R quantification can be used in combination with high resolution computed tomography to



diagnose and differentiate different interstitial lung diseases. With Tecan's sIL-2R ELISA, we now have a validated, robust assay for the long-term management of patients, so we are very pleased. We hope to have a long

partnership with Tecan, and we look forward to evaluating the company's other assays for inflammatory markers, such as neopterin,” Bob concluded.



**TO FIND OUT MORE about the sIL-2R assay from Tecan, go to**  
**[www.ibl-international.com](http://www.ibl-international.com)**

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