

## SciRhom initiates first-in-class antibody development program to treat major autoimmune diseases

**Bench to bedside research provides a new business opportunity: Newly discovered antibodies against iRhom2 block several pro-inflammatory pathways simultaneously, promising significant improvement over current autoimmune therapies.**

**Munich, Germany, November 5, 2019** – SciRhom GmbH, a therapeutic antibody company, announced today the development of first-in-class antibodies against iRhom2, a key modulator of several major pro-inflammatory signaling pathways, including TNF-alpha signaling. Based on a decade of cutting-edge bench research and the completion of a challenging, yet ultimately successful antibody campaign, SciRhom is now in the unique position to pursue the development of monoclonal antibodies against iRhom2 for the treatment of major autoimmune diseases.

iRhom2 is a protein that controls the tumor necrosis factor-alpha-convertase (TACE; also known as ADAM17), a set of molecular scissors that activates several crucial signaling pathways, including TNF-alpha (tumor necrosis factor-alpha) and other disease-related signaling<sup>1-6</sup>. Blocking TACE, however, raises major concerns about side effects, as TACE-deficient patients show severe skin and intestinal defects<sup>7</sup>. In contrast, antibodies against iRhom2 would have the unique advantage over TACE-targeted therapies of simultaneously blocking several TACE-dependent disease-associated pro-inflammatory pathways without causing lesions in the skin and intestinal barrier. Moreover, antibodies against iRhom2 are expected to be superior over anti-TNF-alpha biologics due to their ability to interfere with other important pro-inflammatory pathways. This concept has been validated using iRhom2 knockout mice, which are normal and healthy, but are protected from Rheumatoid Arthritis (RA) and glomerulonephritis caused by Systemic Lupus Erythematosus<sup>8,9</sup>.

These proof-of-concept studies were primarily conducted by Professor Dr. Carl Blobel, co-founder of SciRhom and pioneer of the TACE/ADAM17 field, and his colleague, Professor Dr. Jane Salmon. Prof. Blobel is Program Director of the Arthritis and Tissue Degeneration Program at Hospital for Special Surgery (HSS) in New York, USA, one of the world's top-ranking academic medical centers in Rheumatology and musculoskeletal health.

From these promising results, SciRhom has identified iRhom2-specific antibodies that block TNF-alpha release by TACE and is currently advancing the preclinical development of its first-in-class anti-iRhom2 antibodies towards IND-enabling studies. SciRhom was founded and is led by a highly experienced management team with an excellent track record in antibody drug development that consists of Dr. Jens Ruhe, co-founder of U3 Pharma and former Director R&D at U3 Pharma / Daiichi Sankyo and Dr. Matthias Schneider, previously Preclinical Head of the Patritumab lead program at U3 Pharma / Daiichi Sankyo. In addition to Professor Dr. Carl Blobel, the co-founders of SciRhom are Professor Dr. Axel Ullrich, biotech pioneer, former Director at the Max Planck Institute of Biochemistry and recent recipient of the prestigious Lasker Award, Dr. Andreas Jenne, serial biotech entrepreneur, and HSS. To date, SciRhom has secured about EUR 7 million in seed funding from the High-Tech Gruenderfonds (HTGF), HSS and private investors.

“We are delighted about the excellent and close collaboration with Professor Blobel and HSS, the outstanding work of our team and the strong support by all of our shareholders. Our joint efforts led to the successful generation of first-in-class antibodies against the novel and highly promising target iRhom2, which are protected by the filing of two strong patent applications,” said Dr. Jens Ruhe. “Based on the novel mechanism of action, this approach promises to be a significantly more effective

and much safer therapy for autoimmune disease patients. Backed by the clinical excellence of HSS in Rheumatology we are now thrilled to take our anti-iRhom2 antibodies into the clinic as expediently as possible.”

“With the launch of SciRhom we are fulfilling a vision our teams have pursued for more than a decade. We are excited by the opportunity to advance our bench to bedside research into clinical development to provide novel targeted treatment options for patients with debilitating and life-threatening autoimmune diseases,” commented Prof. Dr. Carl Blobel. “iRhom2 provides a unique and completely new approach for the inhibition of several disease-causing pathways simultaneously, including TNF-alpha signaling. We have identified antibodies with a unique profile, showing potent inhibition of iRhom2/TACE without affecting TACE-dependent pathways that are essential for normal physiology. We hope that these efforts will ultimately give clinicians superior treatment options to improve the quality of life of patients.”

### **About iRhom2**

TACE (TNF-alpha converting enzyme or ADAM17) controls several major signaling pathways, including TNF-alpha signaling<sup>1,2,5,6</sup>. TACE has therefore been considered a potential target for blocking pro-inflammatory pathways, but blocking TACE could cause severe side effects, such as skin and intestinal lesions<sup>7</sup>. The recent discovery that iRhom2 (inactive Rhoind 2, RHBDF2) simultaneously regulates the TACE-dependent release of TNF-alpha and of other pro-inflammatory molecules from immune cells provided the exciting opportunity to target the pro-inflammatory activities of TACE, while preserving its protective functions<sup>3,4,8,9</sup>. A major hurdle to translating this concept into the clinic has now been cleared through the identification of function-blocking antibodies against iRhom2.

### **About SciRhom GmbH**

SciRhom GmbH, based in IZB Martinsried, Germany, is a biotech start-up company that translates science into the preclinical and early clinical development of novel biopharmaceuticals for the treatment of life-threatening diseases. Improving autoimmune disease therapies is the central aspiration of SciRhom. Based on longstanding academic research and a well-established network of experts, SciRhom was founded in late 2016 through a collaboration between scientists from academia and scientists with profound experience in antibody development. Two patent families cover the anti-iRhom2 antibodies and iRhom2-target epitope. To date, SciRhom has secured about EUR 7 million in seed funding from the High-Tech Gruenderfonds (HTGF), HSS and private investors. For further information, please visit [www.SciRhom.com](http://www.SciRhom.com).

### **About High-Tech Gruenderfonds (HTGF)**

High-Tech Gruenderfonds (HTGF) is a seed investor that finances high-potential, tech-driven startups. With EUR 895.5 million in total investment volume across three funds and an international network of partners, HTGF has already helped forge more than 560 startups since 2005. Driven by their expertise, entrepreneurial spirit and passion, its team of experienced investment managers and startup experts help guide the development of young companies. HTGF's focus is on high-tech startups in a range of sectors, including software, media, internet, hardware, automation, health care, chemistry and life sciences. Investors in this public-private partnership include the Federal Ministry for Economic Affairs and Energy, the KfW Capital and further 34 industrial companies. For more Information visit [high-tech-gruenderfonds.de](http://high-tech-gruenderfonds.de).

### **About HSS**

HSS is the world's leading academic medical center focused on musculoskeletal health. At its core is Hospital for Special Surgery, nationally ranked No. 1 in orthopedics (for the tenth consecutive year), No. 3 in rheumatology by *U.S. News & World Report* (2019-2020), and named a leader in pediatric orthopedics by *U.S. News & World Report* "Best Children's Hospitals" list (2019-2020). Founded in

1863, the Hospital has one of the lowest infection rates in the country and was the first in New York State to receive Magnet Recognition for Excellence in Nursing Service from the American Nurses Credentialing Center four consecutive times. The global standard total knee replacement was developed at HSS in 1969. An affiliate of Weill Cornell Medical College, HSS has a main campus in New York City and facilities in New Jersey, Connecticut and in the Long Island and Westchester County regions of New York State. In addition, HSS will be opening a new facility in Florida in early 2020. In 2018, HSS provided care to 139,000 patients and performed more than 32,000 surgical procedures, and people from all 50 U.S. states and 80 countries travelled to receive care at HSS. There were more than 37,000 pediatric visits to the HSS Lerner Children's Pavilion for treatment by a team of interdisciplinary experts. In addition to patient care, HSS leads the field in research, innovation and education. The HSS Research Institute comprises 20 laboratories and 300 staff members focused on leading the advancement of musculoskeletal health through prevention of degeneration, tissue repair and tissue regeneration. The HSS Global Innovation Institute was formed in 2016 to realize the potential of new drugs, therapeutics and devices. The HSS Education Institute is the world's leading provider of education on musculoskeletal health, with its online learning platform offering more than 600 courses to more than 21,000 medical professional members worldwide. Through HSS Global Ventures, the institution is collaborating with medical centers and other organizations to advance the quality and value of musculoskeletal care and to make world-class HSS care more widely accessible nationally and internationally. [www.hss.edu](http://www.hss.edu).

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