



## **CENTOGENE Collaborates on Research Published in Science Showing Immunopathological Landscape of Human Pre-TCR $\alpha$ Deficiency**

February 29, 2024

### **Complete Pre-TCR $\alpha$ Deficiency Found to be Very Rare, Partial Form More Common Than Expected**

CAMBRIDGE, Mass. and ROSTOCK, Germany and BERLIN, Feb. 29, 2024 (GLOBE NEWSWIRE) -- CENTOGENE N.V. (Nasdaq: CNTG) (the "Company"), the essential life science partner for data-driven answers in rare and neurodegenerative diseases, today announced the publication in *Science* of research on human pre-T cell receptor alpha (pre-TCR $\alpha$ ) deficiency, a condition that often results in infection, lymphoproliferation, and autoimmune conditions, and its effect on human immunity.

The research, conducted in collaboration with the Laboratory of Human Genetics of Infectious Diseases at Institut *Imagine* and researchers around the world, analyzed the function of  $\alpha\beta$  and  $\gamma\delta$  T lymphocytes, two lineages of adaptive immunity in vertebrates, in particular the essential role of the pre-TCR $\alpha$  chain in  $\alpha\beta$  T cell development. The study revealed that complete pre-TCR $\alpha$  deficiency is rare in humans and less severe than anticipated. Clinical manifestations, when present, often do not appear until adulthood, suggesting a noncanonical pathway that can rescue  $\alpha\beta$  T cell development. Researchers also found that a partial form of pre-TCR $\alpha$  deficiency is less rare than anticipated, affecting about 1 in 4,000 individuals in South Asia and the Middle East, and can lead to autoimmunity with incomplete penetrance.

Prof. Peter Bauer, Chief Medical and Genomic Officer at CENTOGENE, said, "This research advances our understanding of pre-TCR $\alpha$  deficiency significantly. The paper in *Science*, which just so happens to come out on Rare Disease Day, underlines that while a variant or a condition may be considered rare, in totality, the number of patients affected can be surprisingly high. Our study shows that such deficiencies and patients are somehow linked, and with each insight, we are closer to further understanding human health and ultimately the path to life-changing answers for patients."

CENTOGENE played a pivotal role in the investigation by conducting an in-depth analysis of the CENTOGENE Biodatabank, the world's largest real-world integrated multiomic data repository in rare and neurodegenerative diseases. In analyzing genomic and phenomic data, CENTOGENE researchers helped establish the association between partial pre-TCR $\alpha$  deficiency and autoimmunity, with a higher prevalence than initially expected.

Christian Beetz, Senior Director Genomic Innovation at CENTOGENE, added, "Until now, the impact of pre-TCR $\alpha$  deficiency has been largely unknown. By leveraging our rich data through genomic and phenotypic analyses, we have been able to understand variants and the effects they have at a whole new level, which will help us diagnose and treat patients better in the future. This is what we are striving for every day."

"The study results highlight what cross-institutional collaboration can achieve," added Christian Ganoza, Senior Scientist Genomic Innovation at CENTOGENE. "By partnering with Dr. Vivien Béziat and Dr. Jean-Laurent Casanova of the Laboratory of Human Genetics of Infectious Diseases and working together with leading institutions around the world, we have been able to combine our insights to establish a deeper understanding of pre-TCR $\alpha$  deficiency, which wouldn't have been possible otherwise. Critically, the depth and breadth of the CENTOGENE Biodatabank provided the power to confirm the genotype-phenotype association in an independent real-world cohort, and our CENTOGENE team is proud to have been a part of this."

To read the full study, visit: <https://bit.ly/centogene-science-publication>

### **About CENTOGENE**

CENTOGENE's mission is to provide data-driven, life-changing answers to patients, physicians, and pharma companies for rare and neurodegenerative diseases. We integrate multiomic technologies with the CENTOGENE Biodatabank – providing dimensional analysis to guide the next generation of precision medicine. Our unique approach enables rapid and reliable diagnosis for patients, supports a more precise physician understanding of disease states, and accelerates and de-risks targeted pharma drug discovery, development, and commercialization.

Since our founding in 2006, CENTOGENE has been offering rapid and reliable diagnosis – building a network of approximately 30,000 active physicians. Our ISO, CAP, and CLIA certified multiomic reference laboratories in Germany utilize Phenomic, Genomic, Transcriptomic, Epigenomic, Proteomic, and Metabolomic datasets. This data is captured in our CENTOGENE Biodatabank, with over 800,000 patients represented from over 120 highly diverse countries, over 70% of whom are of non-European descent. To date, the CENTOGENE Biodatabank has contributed to generating novel insights for more than 285 peer-reviewed publications.

By translating our data and expertise into tangible insights, we have supported over 50 collaborations with pharma partners. Together, we accelerate and de-risk drug discovery, development, and commercialization in target and drug screening, clinical development, market access and expansion, as well as offering CENTOGENE Biodata Licenses and Insight Reports to enable a world healed of all rare and neurodegenerative diseases.

To discover more about our products, pipeline, and patient-driven purpose, visit [www.centogene.com](http://www.centogene.com) and follow us on [LinkedIn](#).

### **Forward-Looking Statements**

This press release contains "forward-looking statements" within the meaning of the U.S. federal securities laws. Statements contained herein that are not clearly historical in nature are forward-looking, and the words "anticipate," "believe," "continue," "expect," "estimate," "intend," "project," "plan," "is designed to," "potential," "predict," "objective" and similar expressions and future or conditional verbs such as "will," "would," "should," "could," "might," "can," and "may," or the negative of these are generally intended to identify forward-looking statements. Such forward-looking statements involve known and unknown risks, uncertainties, and other important factors that may cause CENTOGENE's actual results, performance, or achievements to

be materially different from any future results, performance, or achievements expressed or implied by the forward- looking statements. Such risks and uncertainties include, among others, the possibility that no strategic alternatives or trading market will be available to CENTOGENE, negative economic and geopolitical conditions and instability and volatility in the worldwide financial markets, possible changes in current and proposed legislation, regulations and governmental policies, pressures from increasing competition and consolidation in our industry, the expense and uncertainty of regulatory approval, including from the U.S. Food and Drug Administration, our reliance on third parties and collaboration partners, including our ability to manage growth, execute our business strategy and enter into new client relationships, our dependency on the rare disease industry, our ability to manage international expansion, our reliance on key personnel, our reliance on intellectual property protection, fluctuations of our operating results due to the effect of exchange rates, our ability to streamline cash usage, our continued ongoing compliance with covenants linked to financial instruments, our requirement for additional financing, and our ability to continue as a going concern, or other factors. For further information on the risks and uncertainties that could cause actual results to differ from those expressed in these forward-looking statements, as well as risks relating to CENTOGENE's business in general, see CENTOGENE's risk factors set forth in CENTOGENE's Form 20-F filed on May 16, 2023, with the Securities and Exchange Commission (the "SEC") and subsequent filings with the SEC. Any forward-looking statements contained in this press release speak only as of the date hereof, and CENTOGENE specifically disclaims any obligation to update any forward-looking statement, whether as a result of new information, future events, or otherwise.

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