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Irreproducibility in biomarker research and clinical development: A global challenge

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Valid biomarkers are in high demand for drug development, playing an increasingly important role in clinical applications to support and enable e.g. patient stratification, drug selectivity and prediction of toxicity. Individual investigators are not always aware of the complexity of the steps from translating fundamental research findings to clinical applicability, thus facing an immense failure rate due to mostly irreproducible data, e.g. in the area of biomarker research. Efforts by individual groups to publish confirmatory datasets exist but are rare, maybe exemplified by some of our own research on biomarkers in clear cell renal cell carcinoma. However, clinical relevance of such data can only be tested by using large sample numbers and efforts by large teams of investigators. The European Research Infrastructure for Translational Medicine EATRIS is a distributed consortium with currently 80 academic centers in 11 European countries which supports translational medical research towards clinical applications. According to EATRIS' vision to increase awareness of the challenges of translation from fundamental research to clinical application among investigators, we believe that international and global research scale can provide validatable insights into clinical biomarkers and other technologies, impacting clinical care worldwide. EATRIS currently establishes collaborations of global scale to develop strategic plans to reveal sources of irreproducibility in the pre-clinical space including the biomarker field, thus reducing the high attrition rate of drug development pipelines and identifying opportunities for data quality improvement, ultimately for the benefit of human healthcare.

Biography

Andreas Scherer has been working in biomarker R&D in various roles in academia and industry for the past 17 years. Currently, he is Finland's National Coordinator for EATRIS, the European Research Infrastructure for Translational Medicine, and serves as Co-Chair of the EATRIS Biomarker Platform. He also has a role as Biomarker and Molecular Diagnostics Project Coordinator at the Institute for Molecular Medicine Finland (FIMM), University of Helsinki. Since 2007, he has been working as Consultant for omics-based biomarker development in his own company, Spheromics.

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