



Seminars in Biotechnology BTEC 591 & BTEC 691

"Secretome and Surface Proteome Analysis of Acute Myeloid Leukemia derived cell lines to identify RTK inhibitor resistance mechanism"

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13:30

MBG Conference Hall

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Dr. Alperen Cagatay Serdaroglu graduated from Fatih University Biology department with BSc degree (2010). He got his MSc degree in Marmara University Bioengineering (2012) and PhD degree in Technical University of Munich (2017).

Dr. Serdaroglu joined Prof. Stefan Lichtenthaler lab in Munich. He enrolled the PhD (Dr. rer. nat.) programme at TUM Medical School. During his PhD, he developed and optimized a proteomics approach which enables to detect surface and secreted glycoproteins. He mainly focused on Receptor Tyrosine Kinase (RTK) inhibitor resistance mechanism of Acute Myeloid Leukemia (AML). In addition to this he established a Mass Spectrometry method for serum analysis of AML patients. He has experience in Mass Spectrometry (MS), CRISPR and RTK ligand production. After his PhD, he worked in Biotechnology department of Abdi İbrahim Pharmaceuticals and for now he is a senior researcher in DS Trace nano-biotechnology company in Ankara.

Abstract

AML is a very severe form of leukemia with aggressive and heterogeneous characteristics difficult to cure with chemotherapy due to the occurrence of chemoresistance. Therefore, after chemotherapy, targeted inhibition of RTKs has been developed considering frequent mutations. However, both monotherapy and combinations of RTK inhibitors with chemotherapy suffer from fast resistance formation and disease recurrence. Therefore, to learn more about resistance development towards a targeted therapy the secretome and surface proteome analysis can provide rich resource.

This talk will mainly focus on secretome and surface proteome analysis methods via AML cell lines and inhibitor treatment. In addition to this MS analysis strategy of patient serum samples, CRISPR application on AML and RTK ligand production methods will be discussed.