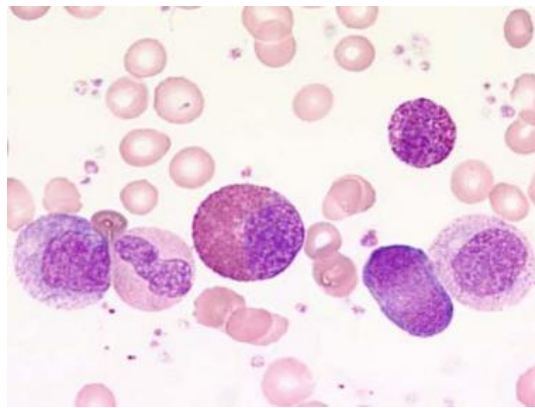


Scientists at ILS are investigating the drug targets for Chronic Myeloid Leukemia

A research group headed by Dr. Soumen Chakraborty at the Department of Biotechnology's institute, the Institute of Life Sciences (ILS), Bhubaneswar, is trying to decipher the targets in the advanced phase of the disease Chronic Myeloid Leukemia (CML) with respect to the initial phase of the disease. The techniques mostly included microarray and Next Generation Sequencing on CML patient samples, coupled with bioinformatics and publicly available data sets. Using miRNA-gene interaction networks from the CML stem cells in comparison to the normal hematopoietic stem cells, team have already identified a set of down-regulated miRNAs and corresponding target genes. The group has even reported one of the miRNA induced cell cycle arrest when overexpressed in CML cells.



Of all the known leukemia's, Chronic Myeloid Leukemia (CML) is the most well studied, with a 10 years of survival rate of 83.3% and infrequent serious side effects, when such patients are treated with tyrosine kinase inhibitors such as Imatinib, the drug of choice. Despite success in the initial phase (chronic phase) of the disease, about 20-30% patient's shows drug resistance and in several patients it progresses to the advanced phase (Blast Crisis) of the disease, which remains both an enigma and a therapeutic challenge. A permanent solution still eludes the research community and the patients as a whole.

Likewise, till date, they have identified two new targets and validated one already published target that are expressed in the advanced phase of the disease. Appropriate understanding of the targets in terms of the disease is underway, so that in future, preclinical models can be developed and proper intervention in combination with imatinib can be administered.

Source: <https://www.ncbi.nlm.nih.gov/pubmed/27586591>