











Publication List

ICON KEY				
 Biomarker Detection	 Hematology	 MRD	 Order of Mutations	 Solid Tumor
 Clinical Profiling	 Mouse	 Single-cell Multi-omics	 Single-cell DNA Sequencing	 Therapy Resistance

2021

   **Thompson E.R. et al., *Blood Advances***

Single-cell sequencing demonstrates complex resistance landscape in CLL and MCL treated with BTK and BCL2 inhibitors

- *Identified clonal architecture of acquired genomic resistance to BTK and BCL2 inhibitors in CLL and MCL patients.*



   **Zhao Y. et al., *Nature***

Diverse alterations associated with resistance to KRAS(G12C) inhibition

- *Revealed a heterogeneous pattern of resistance involving many genes and multiple subclonal events emerging during KRAS (G12C) inhibitor treatment for lung and colorectal cancer.*



  **Sharma R. et al., *Blood***

Gain-of-function mutations in RPA1 cause a syndrome with short telomeres and somatic genetic rescue

- *Single-cell DNA+protein multi-omics revealed somatic genetic rescue events that evolved independently in HSPCs, myeloid cells, and B-cells in patients with telomere disorders.*



  **Sahoo S.S. et al., *Nature Medicine***

Clinical evolution, genetic landscape, and trajectories of clonal hematopoiesis in SAMD9/SAMD9L syndromes

- *Uncovered diversity of somatic genetic rescue events in pediatric instances of SAMD9/9L syndromes, some of which serve as “natural gene therapy.”*





Dillon L.W. et al., *Blood Cancer Discovery*

Personalized single-cell proteogenomics to distinguish acute myeloid leukemia from nonmalignant clonal hematopoiesis

- *Distinguished malignant variants of AML from age-related clonal hematopoiesis by resolving immunophenotypic identity of clonal architecture.*



Marin-Bejar, O. et al., *Cancer Cell*

Evolutionary predictability of genetic versus nongenetic resistance to anticancer drugs in melanoma

- *An analysis of genetic and nongenetic mechanisms of therapy resistance in melanoma.*



Thijssen, R. et al., *Blood*

Intact TP-53 function is essential for sustaining durable responses to BH3-mimetic drugs in leukemias

- *Revealed the effect of TP-53 mutation status on treatment of AML with the BH3-mimetic drugs.*



Wang, F. et al., *Nature Communications*

Leukemia stemness and co-occurring mutations drive resistance to IDH inhibitors in acute myeloid leukemia

- *Investigated clones that enabled relapse in AML patients who received IDH inhibitor treatment.*



Ren, A. et al., *Nature*

PIK3CA and CCM mutations fuel cavernomas through a cancer-like mechanism

- *Single-nuclei sequencing revealed patterns of co-mutation that promote cerebral cavernous malformations (CCMs).*



Lim, K.H. et al., *Blood Advances*

Clonal evolution and heterogeneity in advanced systemic mastocytosis revealed by single-cell DNA sequencing

- *Investigation of resistance to the multikinase inhibitor, midostaurin, in patients with advanced systemic mastocytosis (advSM).*



Demaree, B. et al., *Nature Communications*

Joint profiling of DNA and proteins in single cells to dissect genotype-phenotype associations in leukemia

- *Genotype & immunophenotype “decoupling” in leukemias samples was revealed using single-cell multi-omics.*



2021 cont.

   **Peretz, C.A. et al., *Blood Advances***

Single cell DNA sequencing reveals complex mechanisms of resistance to quizartinib

- Investigated mechanisms of resistance to quizartinib in patients with *FLT3-ITD* mutated AML.






   **Ilacobucci, I. et al., *Blood***

Modeling and targeting of erythroleukemia by hematopoietic genome editing

- Used scDNA-seq analyze CRISPR-edited cells in preclinical models of acute erythroid leukemia (AEL).



   **Kennedy, A.L. et al., *Nature Communications***

Distinct genetic pathways define pre-malignant versus compensatory clonal hematopoiesis in Shwachman-Diamond syndrome

- Zygosity and CN-LOH are reliably measured with high sensitivity (0.1%) and predict progression to leukemia in patients with Shwachman-Diamond syndrome.





   **Alberti-Servera, L. et al., *Blood***

Single-cell DNA amplicon sequencing reveals clonal heterogeneity and evolution in T-cell acute lymphoblastic leukemia

- First study to assess the clonality and order of mutation acquisition of T-cell acute lymphoblastic leukemia (T-ALL) patient samples.



  **Patel, B.A. et al., *Haematologica***

Detectable mutations precede late myeloid neoplasia in aplastic anemia

- Identified evolution of mutations in a rare case where an severe aplastic anemia (SAA) patient who received immunosuppressive therapy developed MDS/AML with normal cytogenetics.



  **Thompson E.R. et al., *Haematologica***

Clonal independence of *JAK2* and *CALR* or *MPL* mutations in comutated myeloproliferative neoplasms demonstrated by single cell DNA sequencing

- First publication in T-cell acute lymphoblastic leukemia (T-ALL) that highlights SNVs/indels and MRD detection.



2020

   **Miles, L.A. et al., *Nature***

Single-cell mutation analysis of clonal evolution in myeloid malignancies

- Used DNA + protein multi-omics to assess clonal architecture and evolution of AML, MPN, and clonal hematopoiesis.



2020 cont.



Morita, K. et al., *Nature Communications*

Clonal evolution of acute myeloid leukemia revealed by high-throughput single-cell genomics

- Extensive study investigating genotype and immunophenotype associated with clonal evolution in AML.



Ten Hacken, E. et al., *Genome Biology*

High throughput single-cell detection of multiplex CRISPR-edited gene modifications

- Analyzed single and multiplexed CRISPR edits in individual cells in models of chronic lymphocytic leukemia (CLL).



Xiao, W. et al., *Blood Advances*

A *JAK2/IDH1*-mutant MPN clone unmasked by ivosidenib in an AML patient without antecedent MPN

- Clonal architecture of a relapsed AML patient, in which treatment with an IDH1 inhibitor promoted outgrowth of a minor myeloid neoplasm (MPN) clone.



Taylor, J. et al., *Blood*

Single-cell genomics reveals the genetic and molecular bases for escape from mutational epistasis in myeloid neoplasms

- Studied a rare phenomenon in biology where 2 splicing mutations co-occur in the patient sample.



Maia, C. et al., *Blood*

Biological and clinical significance of dysplastic hematopoiesis in patients with newly-diagnosed multiple myeloma

- Identified biomarkers from multiple myeloma samples that develop into MDS using multidimensional flow cytometry and single-cell DNA-seq.



Choe, S. et al., *Blood Advances*

Molecular mechanisms mediating relapse following ivosidenib monotherapy in IDH1-mutant relapsed or refractory AML

- Biopharma study that showed molecular resistance mechanisms in 174 patients following ivosidenib monotherapy for R/R AML.



DiNardo, C.D. et al., *Blood*

Molecular patterns of response and treatment failure after frontline venetoclax combinations in older patients with AML

- Molecular basis for treatment resistance or durable remission in older patients with AML given venetoclax combination therapy.



2020 cont.



Ediriwickrema, A. et al., *Blood Advances*

Single-cell mutational profiling enhances the clinical evaluation of AML MRD

- MRD detection identified clones at remission that expanded into the dominant clone at relapse in patients with AML.



2019



Xu, L. et al., *Scientific Reports*

Clonal evolution and changes in two AML patients detected with a novel single-cell DNA sequencing platform

- Clonal remodeling in patients with AML after bone marrow transplant revealed donor chimerism and unique clones.



Gao, Y. et al., *Cancer Discovery*

V211D mutation in MEK1 causes resistance to MEK inhibitors in colon cancer

- Treatment resistance mechanism revealed in colon cancer PDX model after treatment with MEK inhibitor binimetinib and EGFR antibody panitumumab.



McMahon, C. et al., *Cancer Discovery*

Clonal selection with Ras pathway activation mediates secondary clinical resistance to selective FLT3 inhibition in acute myeloid leukemia

- Treatment resistance mechanism revealed in AML with co-occurring FLT3 and RAS mutations after treatment with the FLT3-inhibitor gilteritin in patients with AML.



2018



Pellegrino, M. et al., *Genome Research*

High-throughput single-cell DNA sequencing of acute myeloid leukemia tumors with droplet microfluidics

- First publication that showcased single-cell DNA sequencing of thousands of cells using droplets in longitudinal AML sample.

