Haematologica HAEMATOL/2020/259457 Version 3

Leukemia vaccine overcomes limitations of checkpoint blockade by evoking clonal T cell responses in a murine acute myeloid leukemia model

Dina Stroopinsky, Jessica Liegel, Manoj Bhasin, Giulia Cheloni, Beena Thomas, Swati Bhasin, Ruchit Panchal, Haider Ghiasuddin, Maryam Rahimian, Myrna Nahas, Shira Orr, Marzia Capelletti, Daniela Torres, Cansu Tacettin, Matthew Weinstock, Lina Bisharat, Adam Morin, Kathleen M. Mahoney, Benjamin Ebert, Richard Stone, Donald Kufe, Gordon J. Freeman, Jacalyn Rosenblatt, and David Avigan

Disclosures: JR: Celgene - Research Support; BMS -Research Support; Amgen-Advisory Board; Merck - Advisory Board; BMS - Advisory Board; Parexel – Consulting; Imaging Endpoint – Consulting; Partner Tx - Advisory Board; Dava Oncology –Education. DA: Celgene - Research Support; Pharmacyclics - Research Support; Celgene - Advisory Board; Juno - Advisory Board; Partners Tx - Advisory Board; Karyopharm - Advisory Board; BMS - Advisory Board; Aviv MedTech Ltd. - Advisory Board; Janssen – Consulting; Parexel – Consulting; Takeda – Consulting. GJF: has patents/pending royalties on the PD-1/PD-L1 pathway from Roche, Merck, Bristol-Myers-Squibb, EMD-Serono, Boehringer-Ingelheim, AstraZeneca, Dako and Novartis. GJF has patents on the TIM-3 and RGMb pathways licensed to Navartis. GJF has equity in Nextpoint and Triursus. GJF has served on advisory boards for Roche, Bristol-Myers-Squibb, Xios, and Origimed.

Contributions: Dina Stroopinsky, Jessica Liegel: designed research, performed research, interpreted data, and were responsible manuscript preparation. Manoj Bhasin: designed and directed research including studies related to TCR clonotypic and single cell analysis. Swati Bhasin: Performed scRNA-Seq experiments and analysis. Beena Thomas: Performed scRNA-Seq and targeted TCR sequencing Giulia Cheloni: Performed mIDH2 in vivo experiments Ruchit Panchal: Analyzed TCR sequencing data Kathleen Mahoney, Myrna Nahas, Shira Orr, Marzia Capelletti, Matthew Weinstock, Salvia Jain, Lina Bisharat, Haider Ghiasuddin, Adam Morin, Beena Thomas, Daniela Torres, Cansu Tacettin: performed research studies and participated in research design Benjamin Ebert, Richard Stone, Donald Kufe, Gordon Freeman: assisted with research design, analyzed and interpreted data, and assisted with manuscript preparation. David Avigan and Jacalyn Rosenblatt: designed and supervised research, associated analysis, and manuscript preparation