

AMIT VERMA, MBBS

Positions:

Professor, Departments of Oncology and Developmental and Molecular Biology

Director, Division of Hemato-Oncology

Member, Ruth L. and David S. Gottesman Institute for Stem Cell and Regenerative Medicine Research (Einstein Stem Cell Institute)

Albert Einstein College of Medicine

Research interests:

We have been involved in study of pathogenesis of myeloid malignancies and bone marrow failure syndromes MDS and AML. We have elucidated the critical role of signaling pathway (p38 MAP kinase, TGF-beta, smad2/3, IRAK and others) activation in MDS and this work has directly led to the therapeutic targeting as these pathways in clinical trials in MDS/AML (**Nat Cell Bio 2019, JCI 2018, Blood 2015, 2011, NEJM 2020**). We were one of the first groups to define stem cell alterations in MDS/AML and have optimized flow-cytometric and molecular assays to work with small numbers of primary samples (**Nat Med, 2018; JCI 2014, Blood 2012**). Our lab has also developed genome wide assays for DNA methylation and hydroxymethylation and used them in a variety of tumor models including pancreatic cancer (**Can Disc, 2019; Elife, 2019; JCI, 2018; Gen Res, 2017, NAR 2016, Nat Immunol 2015**). I also have worked on clinical studies on blood cancers (**NEJM 2020, JCO 2021**) and on COVID19 outcomes (**Can Disc, 2020; Cancer Cell 2021**)

Current grant funding:

R01 HL1508321

07/01/19 – 06/30/23

(NIH/NHLBI)

Stat3 inhibition as a therapeutic strategy against MDS stem cells

U01OH012271

07/01/21 – 06/30/24

(NIOSH)

Early detection of clonal hematopoiesis and leukemia associated mutations in wtc exposed firefighters after the 9/11 attacks

Recent publications (selected):

1. Thakkar A, Gonzalez-Lugo JD, Goradia N, Gali R, Shapiro LC, Pradhan K, Rahman S, Kim SY, Ko B, Sica RA, Kornblum N, Bachier-Rodriguez L, McCort M, Goel S, Perez-Soler R, Packer S, Sparano J, Gartrell B, Makower D, Goldstein YD, Wolgast L, Verma A*, Halmos B*. *Co-Corresponding Seroconversion rates following COVID-19 vaccination among patients with cancer. **Cancer Cell**. 2021 Aug 9;39(8):1081-1090.
2. Su H, Jiang M, Senevirathne C, Aluri S, Zhang T, Guo T, Xavier-Ferruccio J, Jin J, Tran NT, Liu SM, Sun CW, Zhu Y, Zhao Q, Chen Y, Cable LA, Shen Y, Liu J, Qu CK, Han X, Klug CA, Bhatia R, Chen Y, Nimer SD, Zheng YG, Iancu-Rubin C, Jin J, Deng H, Krause DS, Xiang J, Verma A*, Luo M*, Zhao X* Methylation of Dual Specificity Phosphatase 4 Controls Cell Differentiation **Cell Reports**, 2021 Jul 27;36(4):109421..
3. Mehta V*, Goel S*, Kabarriti R*, Cole D, Goldfinger M, Acuna-Villaorduna A, Pradhan K, Thota R, Reissman S, Sparano JA, Gartrell BA, Smith RV, Ohri N, Garg M, Racine AD, Kalnicki S, Perez-Soler R, Halmos B*, Verma A*. Case Fatality Rate of Cancer Patients with COVID-19 in a New York Hospital System. **Cancer Discov**. 2020 Jul;10(7):935-941. PMID: 32357994; PMCID: PMC7334098.
4. Fenaux P, Platzbecker U, Mufti GJ, Garcia-Manero G, Buckstein R, Santini V, Díez-Campelo M, Finelli C, Cazzola M, Ilhan O, Sekeres MA, Falantes JF, Arrizabalaga B, Salvi F, Gai V, Vyas P, Bowen D, Selleslag D, DeZern AE, Jurcic JG, Germing U, Götze KS, Quesnel B, Beyne-Rauzy O, Cluzeau T, Voso MT, Mazure D, Vellenga E, Greenberg PL, Hellström-Lindberg E, Zeidan AM, Adès L, Verma A, Savona MR, Laadem A, Benzohra A, Zhang J, Rampersad A, Dunshee DR, Linde PG, Sherman ML, Komrokji RS, List AF. Luspatercept in Patients with Lower-Risk Myelodysplastic Syndromes. **N Engl J Med**. 2020 Jan 9;382(2):140-151. PMID: 31914241
5. Bhagat TD, Von Ahrens D, Dawlaty M, Zou Y, Baddour J, Achreja A, Zhao H, Yang L, Patel B, Kwak C, Choudhary GS, Gordon-Mitchell S, Aluri S, Bhattacharyya S, Sahu S, Yu Y, Bartenstein M, Giricz O, Suzuki M, Sohal D, Gupta S, Guerrero PA, Batra S, Goggins M, Steidl U, Greally J, Agarwal B, Pradhan K, Banerjee D, Nagrath D, Maitra A, Verma A. Lactate-mediated epigenetic reprogramming regulates formation of human pancreatic cancer-associated fibroblasts. **Elife** 2019 Oct 30;8. PMID: 31663852
6. Smith M*, Choudhary GS*, Pellagatti A, Choi K, Bhagat TD, Gordon-Mitchell S, Von Ahrens D, Pradhan K, Steeples V , Kim S, Steidl U , Salomonis N , Walter M, Komurov K, Boulwood J*, Verma A*, Starczynowski D* U2AF1 mutations induce oncogenic innate immune pathways by regulating the expression of active IRAK4 isoforms in hematologic malignancies **Nature Cell Bio** May;21(5):640-650
7. Jeong JJ, Gu X, Nie J, Sundaravel S, Liu H, Kuo W, Bhagat TD, Pradhan K, Cao J, Nischal S, McGraw K, Bhattacharyya S, Bishop M, Artz A, Thirman M, Moliterno AR, Ji P, Levine RL, Godley LA, Steidl U, Beiker J, List AF, Sauntharajah Y, He C, Verma A,* Wickrema A* Cytokine regulated phosphorylation and activation of TET2 by JAK2 in hematopoiesis **Cancer Discovery** Jun;9(6):778-795. PMID: 30944118 * Equal Contribution