BIOGRAPHICAL SKETCH

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NAME	POSITION TITLE
Miklos, David B.	Assistant Professor of Medicine
eRA COMMONS USER NAME MIKLOS.DAVID	

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)*

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	YEAR(s)	FIELD OF STUDY
University of Notre Dame, South Bend, IN	B.S.	1987	
Yale University School of Medicine, New Haven, CT	M.D./Ph.D.	1995	Medicine
Yale University, New Haven, CT	Ph.D.	1995	Genetics
Brigham and Women's Hospital, Boston, MA		1998	Internal Medicine
Dana Farber Cancer Institute, Boston, MA		2001	Hematology/Oncology

A. Personal Statement

I am a physician-scientist who has established a human translational research group that fosters the development of young researchers to excel as both laboratory immunologists, and clinical translational researchers. I highly value the opportunity to mentor immunology graduate students and post docs in laboratory research and strongly commit to their academic development. My research focuses on B cell reconstitution after allogeneic hematopoietic cell transplantation (allo-HCT) and the serologic identification of minor histocompatibility antigens. The concurrent development of H-Y Ab and cGVHD suggested B cell therapies may prevent or effectively treat cGVHD, and we have completed three single institution phase II trials using rituximab therapy confirming cGVHD therapeutic and prevention benefits and supportive correlative immunology studies In an effort to discover beneficial GVT and detrimental GVHD mHA, the Miklos lab has pioneered protein microarray technologies screening for new Ab responses developing after allo-HCT against thousands of human proteins. Finally, we have been applied high throughput sequencing of immunoglogulin VDJ sequences enabling: 1) B cell malignancy disease quantification before and after HCT, 2) detailed B cell reconstitution kinetics and donor/recipient contribution, and 3) clonal analysis of antigen specific responses following allo-HCT responses. Since starting my lab six years ago, I have mentored/supervised seven post-docs, three Heme/Onc fellows, two undergraduate students, and three medical students.

B. Positions and Honors

Residencies and Fellowships

1989-1993	Howard Hughes Medical Institute Predoctoral Fellowship
1993-1995	Medical Scientist Training Program Fellowship
1995-1996	Intern in Medicine, Brigham and Women's Hospital, Boston, Massachusetts
1996-1998	Resident in Medicine, Brigham and Women's Hospital, Boston, Massachusetts
1998-2001	Clinical Fellow, Adult Hematology and Oncology, Dana-Farber/Partners Cancer Care, Boston, MA
2000-2001	Friends of the Dana Farber Cancer Institute Fellowship
2001-2003	Harvard-MIT Clinical Investigator Training Program Fellowship

Academic Appointments

2000-2001	Instructor of Introduction to Clinical Medicine, Harvard Medical School
2000-2004	Hematology Tutorial Instructor, Harvard Medical School
2001 2004	Instructor in Medicine, Harvard Medical School, Dept. Adult Oncology, Dana-Farber Cancer Institute
2004-	Assistant Professor, Laboratory Principle Investigator, Stanford University, Department of Medicine, Division of Bone Marrow Transplantation

Hospital Appointments

2001-2004	Hematopoietic Stem Cell Transplant Clinician, Department of Adult Oncology, Dana-Farber Cancer Institute, Boston, Massachusetts

Awards and Honors

1987	Summa Cum Laude, University of Notre Dame
1987	Phi Beta Kappa, Alpha Epsilon Delta, Notre Dame Scholar
1988	March of Dimes Summer Research Scholarship
1995	Alpha Omega Alpha Medical Honor Society

C. Selected peer-reviewed publications

1. **Miklos DB**, Kim H, Zorn E, Hochberg E, Guo L, Mattes-Ritz A, Viatte S, Soiffer R, Antin J, Ritz, J. Antibody Response to DBY minor histocompatibility antigen is induced after allogeneic stem cell transplantation and in normal female donors. Blood 2004; 103(1): 353-9. PMCID: PMC1350983
2. Zorn E, **Miklos DB**, Floyd B, Mattes-Ritz M, Guo L, Soiffer R, Antin, and Ritz J. Minor Histocompatibility Antigen DBY Elicits a Coordinated B and T Cell Response After Allogeneic Stem Cell Transplantation. J. Exp. Med. 2004; 199(8): 1-11. PMCID: PMC1361263
3. **Miklos DB**, Kim HT, Miller KH, Guo L, Zorn E, Lee SJ, Hochberg EP, Wu CJ, Alyea EP, Cutler C, Ho V, Soiffer RJ, Antin JH, Ritz J. Antibody Responses to H-Y Minor Histocompatibility Antigens Correlate with Chronic Graft versus Host Disease and Disease Remission. Blood 2005; 105(7):2973-8. PMCID: PMC1350982
4. Cutler C, **Miklos D**, Kim HT, Treister N, Woo SB, Bienfang D, Klickstein LB, Levin J, Miller K, Reynolds C, Macdonell R, Pasek M, Lee SJ, Ho V, Soiffer R, Antin JH, Ritz J, Alyea E. Rituximab for steroid-refractory chronic graft-vs.-host disease. Blood. 2006, July 15; 108(2):756-62. PMCID: PMC1895490.
5. Boyd SD, Marshall EL, Merker JD, Maniar JM, Zhang LN, Sahaf B, Jones CD, Simen BB, Hanczaruk B, Nguyen KD, Nadeau KC, Egholm M, **Miklos DB**, Zehnder JJ, Fire AZ, Measurement and clinical monitoring of human lymphocyte clonality by massively parallel V-D-J pyrosequencing. Sci. Transl. Med. 1, 12ra23 (2009). PMCID: PMC2819115.
6. Wadia PP, Coram M, Armstrong RJ, Mindrinos M, Butte AJ, **Miklos DB**.; Antibodies Specifically Target AML Antigen NuSAP1 after Allogeneic Bone Marrow Transplantation. Blood, 2010 Mar 11; 115(10):2077-87. PMCID: PMC2819115.
7. Nielsen HS, Wu F, Aghai Z, Steffensen R, Van Halteren AG, Spierings E, Christiansen OB, **Miklos D†,** and Goulmy E†. H-Y antibody titers are increased in unexplained secondary recurrent miscarriage patients and associated with low male: female ratio in subsequent live births. Hum Reprod., 2010 Sep 7. †Senior authors contributing equally. PMCID: PMC 2955557
8. Chen GL, Arai S, Flowers MED, Otani JM, Qui J, Cheng EC, McMilan A, Johnston LJ, Shizuru JA, and **Miklos DB.** A Phase 1 Study of Imatinib for Corticosteroid Dependent / Refractory Chronic Graft-versus-Host Disease: Response Does Not Correlate with Anti-PDGFRA Antibodies. Blood, 2011 Oct 13;118(15):4070-8. PMID: 21828142
9. Logan AC, Gao H, Wang C, Sahaf B, Jones CD, Marshall EL, Buño I, Armstrong R, Fire AZ, Weinberg KI, Mindrinos M, Zehnder JL, Boyd SD, Xiao W, Davis RW, **Miklos DB**. High-throughput VDJ sequencing for quantification of minimal residual disease in chronic lymphocytic leukemia and immune reconstitution assessment. Proc Natl Acad Sci USA, 2011 Dec 27; 108(52):21194-9. PMCID: PMC3248502.
10. Arai S, Sahaf B, Narasimhan B, Chen G, Jones C, Lowsky R, Shizuru J, Johnston L, Laport G, Weng WK, Benjamin J, Schaenman J, Brown J, Ramirez J, Zehnder JL, Negrin, RS, **Miklos, DB**. Prophylactic Rituximab after Allogeneic Transplantation Decreases B cell Alloimmunity with Low Chronic GVHD Incidence. Blood, 2012 Jun 21;119(25):6145-54. PMCID: PMC3383022.
11. Gawad C, Pepin F, Carlton V, Klinger M, Logan AC, **Miklos DB**, Faham M, Dahl G, Lacayo N. Massive evolution of the immunoglobulin heavy chain locus in children with B precursor acute lymphoblastic leukemia. Blood, 2012 Nov 22;120(22):4407-17. PMCID: PMC3507147.
12. Sahaf B, Yang Y, Arai S, Herzenberg L, Herzenberg LA, **Miklos DB**. H-Y antigen binding B cells develop in male recipients of female hematopoietic cells and associate with chronic graft vs host disease. Proc Natl Acad Sci USA, 2013 Feb 19;110(8): 3005-10. PMCID: PMC3581974.
13. Logan AC, Zhang B, Narasimhan B, Carlton V, Zheng J, Moorhead M, Krampf MR, Jones CD, Waqar AN, Faham M, Zehnder JL, **Miklos DB**. Minimal Residual Disease Quantification Using Consensus Primers and High-Throughput IGH Sequencing Predicts Post-Transplant Relapse in Chronic Lymphocytic Leukemia. Leukemia. 2013 Feb 19. 1-7. PMCID: PMC3740398

14. Meyer EH, Hsu AR, Liliental J, Löhr A, Florek M, Zehnder JL, Strober S, Lavori P, **Miklos DB,** Johnson DS, Negrin RS. A Distinct Evolution of the T Cell Repertoire Categorizes Treatment Refractory Gastrointestinal Acute Graft-Versus-Host Disease. Blood. 2013 June 13;121(24):4955-62. PMCID: 3682344

D. Research Support

Active:

P0 1CA049605 (Negrin) 04/15/89-03/31/18
NIH/National Cancer Institute
Bone Marrow Grafting for Leukemia and Lymphoma
Role: Project 4 leader - Improving Graft-vs.-Leukemia Alloimmunity against CLL
1. To validate immunoglobulin heavy chain (IGH) high throughput sequence (HTS) methods to quantify CLL minimal residual disease (MRD) as a predictor of relapse.
2. To evaluate B and T cell repertoire diversity and tempo of development following alloHCT in relation to CLL MRD response and GVHD.
3. Phase II clinical trial to determine if alloCIK cell infusion in CLL patients with mixed donor chimerism will improve immune reconstitution, GVL, and prevent CLL relapse.

U54 Project 43354 (Miklos) 09/25/09-08/31/14
Rare Diseases Clinical Research Consortia (RDCRC)
Immune Mediated Disorders after Allogeneic Hematopoietic Transplantation PI: Stephanie Lee
Role: Project 2 leader - Biology and Treatment of Cutaneous Sclerosis
1. To determine the clinical response rate of cutaneous sclerosis (skin and/or fascial thickening) to treatment with either imatinib or rituximab in a randomized, phase II clinical study.
2. To identify developmental B cell stages associated with sclerosis and rituximab and imatinib response.
3. To determine if clinical response in both groups correlates with PDGFR relevant parameters.

R01 AI083757-01A1 (Lewis) 2/15/10-1/31/15
NIH/NIAID
Recent thymic emigrants of the CD4 T-cell lineage
The major goal of this project is to define the function and phenotype CD4 recent thymic emigrants, as identified using a novel marker, protein tyrosine kinase 7, during normal post-natal development, immune reconstitution following hematopoietic stem cell reconstitution, and after thymectomy. This is a stimulus-related bridge grant award that will allow the initiation of the studies of a R01 proposal that is pending review to be carried out for one year.

CAMN107AUS22T (Miklos) 07/01/10 – 12/31/14
Novartis Pharmaceuticals Corp SPO 49598
A Phase 1 Study of Nilotinib in Steroid Dependent Refractory Chronic Graft Versus Host Disease
An investigator initiated multicenter study of Nilotinib in 35 patients with steroid refractory chronic graft versus host disease with PK/PD correlative studies including anti-PDGFR antibody measurements and skin biopsy mass spec analysis of possible phosphor-tyrosine targets

R01 HL114591 (Negrin PI) 09/01/12-05/31/17
NIH/National Heart, Lung and Blood Institute
Regulatory T cells in allo HCT
Goals: To utilize highly purified CD4+CD25+CD127-FoxP3+ regulatory T cells in allogeneic hematopoietic cell transplantation clinical trials and assess their efficacy in preventing and treating graft vs host disease in the clinic.

SPO 114379 (John Levine and John Hansen) 6/1/13 – 5/31/17
NIH BMT Clinical Trials Network
National Marrow Donor Program

BMT CTN PROTOCOL 1202 Prospective Multi-Center Cohort for the Evaluation of Biomarkers Predicting Risk of Complications and Mortality Following Allogeneic HCT.
Role: Site PI: Miklos

SPO 114379 6/1/13 – 5/31/17
NIH BMT Clinical Trials Network
National Marrow Donor Program
National Marrow Donor Program - Research Sample Repository for Allogeneic Hematopoietic Stem Cell Transplantation and Marrow Toxic Injuries
Site PI: Miklos

DR2A-05365 (Shizuru) 8/1/13 – 3/30/2017
California Institute for Regenerative Medicine (CIRM)
A monoclonal antibody that depletes blood stem cells and enables chemotherapy free transplants
Role: Investigator responsible for human cell manipulation laboratory products

Completed:

CAMN107AUS22T (Miklos, D.) 07/01/10-12/31/13
Novartis Pharmaceuticals Corp SPO 49598: A Phase 1 Study of Nilotinib in Steroid Dependent Refractory Chronic Graft Versus Host Disease
An investigator initiated multicenter study of Nilotinib in 35 patients with steroid refractory chronic graft versus host disease with PK/PD correlative studies including anti-PDGFR antibody measurements and skin biopsy mass spec analysis of possible phosphor-tyrosine targets.

CSTI571AUS279T (Miklos, D.) 08/31/08-12/31/12
Novartis Pharmaceuticals Corp SPO 43327
A pilot of imatinib in steroid refractory chronic graft vs host disease.

The Leukemia and Lymphoma Society (Miklos, D.) 10/01/08-09/30/11
Hematopoietic Cell Transplant using Idiotype Immunized Donors
The specific aims of this project are to determine the actual cGVHD incidence of the 36 CLL and MCL patients transplanted using TLI-ATG Nonmyeloablative conditioning with rituximab 2 months post-HCT 2, determine if and when CLL allogeneic HCT patients generate anti-idiotype B and T cell immune responses after transplantation, and identify novel GVL targets using protein microarrays to identify targets of allogeneic antibody responses after HCT.