

## “From research on immunological reconstitution following alloHCT to the development of cell therapy”

### David Miklos

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#### Aim/Introduction:

How has a principal investigator (PI) conceived new research ideas from clinical practice and established a career as a translational researcher?

Let's ask the research history of Dr. Miklos about HY immunity, TKI and ibrutinib for cGVHD, and ongoing CAR-T and beyond.

The story behind the scientific projects and perspective of future research would help young investigators select their career plan.

#### Expert

Name/title: David B. Miklos, M.D., Ph.D. / Chief, BMT & Cell Therapy, Professor of Medicine

Affiliation(s): Stanford University School of Medicine

#### Brief self-introduction:

Dr. Miklos discovered clinically relevant allogeneic H-Y antibodies in association with cGVHD following sex mismatched transplantation, leading to therapeutic benefits using anti-B cell drugs rituximab and ibrutinib. Immunotherapy is revolutionizing cancer treatment, and he is now developing and evaluating the most promising CAR-T therapies.

#### Related publications:

- 1) CAR T cells with dual targeting of CD19 and CD22 in adult patients with recurrent or refractory B cell malignancies: a phase 1 trial. *Nat Med.* 2021; 27(8): 1419-1431.
- 2) Monitoring of Circulating Tumor DNA Improves Early Relapse Detection After Axicabtagene Ciloleucef Infusion in Large B-Cell Lymphoma: Results of a Prospective Multi-Institutional Trial. *J Clin Oncol.* 2021; 39(27): 3034-3043.
- 3) Ibrutinib for chronic graft-versus-host disease after failure of prior therapy. *Blood.* 2017 Nov 23; 130(21): 2243-2250.

#### Facilitator

Name/title: Hideki Nakasone, M.D., Ph.D. / Associate Professor

Affiliation(s): Jichi Medical University Saitama Medical Center

#### Brief self-introduction:

Dr. Nakasone is a clinical and translational researcher with expertise in the immunological aspects of anti-tumor effect and complications following HCT. He focuses on pursuing the optimal management of immune reconstitutions following HCT and exploring novel candidates for immune therapies.

#### Related publications:

- 1) Features of repertoire diversity and gene expression in human cytotoxic T cells following allogeneic hematopoietic cell transplantation. *Commun Biol.* 2021; 4: 1177.
- 2) BM is preferred over PBSCs in transplantation from an HLA-matched related female donor to a male recipient. *Blood Adv.* 2019; 3: 1750-1760.
- 3) Allogeneic HY antibodies detected 3 months after female-to-male HCT predict chronic GVHD and nonrelapse mortality in humans. *Blood.* 2015; 125: 3193-201.