

Stanford



Mara Pavel-Dinu

Instructor, Pediatrics - Stem Cell Transplantation

Bio

ACADEMIC APPOINTMENTS

- Instructor, Pediatrics - Stem Cell Transplantation
- Member, Maternal & Child Health Research Institute (MCHRI)

HONORS AND AWARDS

- Early Career Research Training Grant, National Blood Foundation (07/2022 - 06/2023)
- Training Grant, Primary Immunodeficient Training Consortium (PIDTC) (09/2021 - 08/2022)
- Meritorious Travel Grant Award, ASGCT 23rd Annual Meeting, Boston (2020)
- Meritorious Travel Grant Award, FOCIS Annual Meeting, San Francisco (2018)
- Meritorious Travel Grant Award, ASGCT 20th Annual Meeting, Washington DC (2017)
- NSF Graduate Student Research Fellowship, Stanford University (2010-2013)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Member, AABB (2021 - present)
- Associate Member, American Society of Hematology (ASH) (2020 - present)
- Member, Keystone Symposia (2019 - present)
- Member, Primary Immune Deficiency Treatment Consortium (PIDTC) (2018 - present)
- Member, Clinical Immunology Society (2018 - present)
- Member, Federation of Clinical Immunology Societies (FOCIS) (2018 - present)
- Associate Member, American Society of Gene and Cell Therapy (ASGCT) (2017 - present)

PROFESSIONAL EDUCATION

- Post-doctoral Fellow, Stanford University , Genome editing and stem cell biology (2021)

Publications

PUBLICATIONS

- **Rare immune diseases paving the road for genome editing-based precision medicine.** *Frontiers in genome editing*
Pavel-Dinu, M., Borna, S., Bacchetta, R.
2023; 5: 1114996
- **A Curative DNA Code for Hematopoietic Defects: Novel Cell Therapies for Monogenic Diseases of the Blood and Immune System.** *Hematology/oncology clinics of North America*

Porteus, M. H., Pavel-Dinu, M., Pai, S.
2022

- **CRISPR-Cas9-AAV versus lentivector transduction for genome modification of X-linked severe combined immunodeficiency hematopoietic stem cells.** *Frontiers in immunology*
Brault, J., Liu, T., Liu, S., Lawson, A., Choi, U., Kozhushko, N., Bzhilyanskaya, V., Pavel-Dinu, M., Meis, R. J., Eckhaus, M. A., Burkett, S. S., Bosticardo, M., Kleinstiver, et al
2022; 13: 1067417
- **Correction to: Gene Editing Rescues In Vitro T Cell Development of RAG2-Deficient Induced Pluripotent Stem Cells in an Artificial Thymic Organoid System.** *Journal of clinical immunology*
Gardner, C. L., Pavel-Dinu, M., Dobbs, K., Bosticardo, M., Reardon, P. K., Lack, J., DeRavin, S. S., Le, K., Bello, E., Pala, F., Delmonte, O. M., Malech, H., Montel-Hagen, et al
2021
- **Correction of X-CGD patient HSPCs by targeted CYBB cDNA insertion using CRISPR/Cas9 with 53BP1 inhibition for enhanced homology-directed repair.** *Gene therapy*
Sweeney, C. L., Pavel-Dinu, M., Choi, U., Brault, J., Liu, T., Koontz, S., Li, L., Theobald, N., Lee, J., Bello, E. A., Wu, X., Meis, R. J., Dahl, et al
2021
- **Gene Editing Rescues In vitro T Cell Development of RAG2-Deficient Induced Pluripotent Stem Cells in an Artificial Thymic Organoid System.** *Journal of clinical immunology*
Gardner, C. L., Pavel-Dinu, M., Dobbs, K., Bosticardo, M., Reardon, P. K., Lack, J., DeRavin, S. S., Le, K., Bello, E., Pala, F., Delmonte, O. M., Malech, H., Montel-Hagen, et al
2021
- **Enhanced Homology-directed Repair for Highly Efficient Gene Editing in Hematopoietic Stem/Progenitor Cells.** *Blood*
De Ravin, S. S., Brault, J., Meis, R. J., Liu, S., Li, L., Pavel-Dinu, M., Lazzarotto, C. R., Liu, T. Q., Koontz, S., Choi, U., Sweeney, C. L., Theobald, N., Lee, et al
2021
- **Improved Genome Editing through Inhibition of FANCM and Members of the BTR Dissolvase Complex.** *Molecular therapy : the journal of the American Society of Gene Therapy*
de Alencastro, G. n., Puzzo, F. n., Pavel-Dinu, M. n., Zhang, F. n., Pillay, S. n., Majzoub, K. n., Tiffany, M. n., Jang, H. n., Sheikali, A. n., Cromer, M. K., Meetei, R. n., Carette, J. E., Porteus, et al
2021; 29 (3): 1016–27
- **Lentivector versus CRISPR/Cas9/AAV6 Gene Editing in X-Linked Severe Combined Immunodeficiency CD34(+) Hematopoietic Cells**
Liu, T., Brault, J., Pavel-Dinu, M., Liu, S., Meis, R. J., Koontz, S., Corsino, C., Bosticardo, M., Kleinstiver, B., Notarangelo, L. D., Wu, X., Dahl, G. A., Porteus, et al
CELL PRESS.2020: 355–56
- **A Genomic Editing-Based Therapeutic Approach for RAG2 Deficiency**
Pavel-Dinu, M., Gardner, C., La Guardia, T. A., Vakulskas, C. A., Lee, C., Bao, G., Sheikali, A., Menezes, T., Notarangelo, L. D., Porteus, M. H.
CELL PRESS.2020: 55–56
- **Proteins Complex of the Fanconi Anemia Pathway as Determinant of AAV-Mediated Genomic Targeted Integration**
Puzzo, F., de Alencastro, G., Pavel-Dinu, M., Zhang, F., Pillay, S., Majzoub, K., Tiffany, M., Jang, H., Sheikali, A., Cromer, K. M., Meetei, R., Carette, J. E., Porteus, et al
CELL PRESS.2020: 459
- **Highly Efficient and Marker-free Genome Editing of Human Pluripotent Stem Cells by CRISPR-Cas9 RNP and AAV6 Donor-Mediated Homologous Recombination.** *Cell stem cell*
Martin, R. M., Ikeda, K., Cromer, M. K., Uchida, N., Nishimura, T., Romano, R., Tong, A. J., Lemgart, V. T., Camarena, J., Pavel-Dinu, M., Sindhu, C., Wiebking, V., Vaidyanathan, et al
2019; 24 (5): 821
- **Highly Efficient and Marker-free Genome Editing of Human Pluripotent Stem Cells by CRISPR-Cas9 RNP and AAV6 Donor-Mediated Homologous Recombination** *CELL STEM CELL*
Martin, R. M., Ikeda, K., Cromer, M., Uchida, N., Nishimura, T., Romano, R., Tong, A. J., Lemgart, V. T., Camarena, J., Pavel-Dinu, M., Sindhu, C., Wiebking, V., Vaidyanathan, et al
2019; 24 (5): 821+

- **Gene correction for SCID-X1 in long-term hematopoietic stem cells (vol 10, 1634, 2019) NATURE COMMUNICATIONS**
Pavel-Dinu, M., Wiebking, V., Dejene, B. T., Srifa, W., Mantri, S., Nicolas, C. E., Lee, C., Bao, G., Kildebeck, E. J., Punjya, N., Sindhu, C., Inlay, M. A., Saxena, et al
2019; 10
- **Gene correction for SCID-X1 in long-term hematopoietic stem cells NATURE COMMUNICATIONS**
Pavel-Dinu, M., Wiebking, V., Dejene, B. T., Srifa, W., Mantri, S., Nicolas, C. E., Lee, C., Bao, G., Kildebeck, E. J., Punjya, N., Sindhu, C., Inlay, M. A., Saxena, et al
2019; 10
- **Gene correction for SCID-X1 in long-term hematopoietic stem cells. Nature communications**
Pavel-Dinu, M., Wiebking, V., Dejene, B. T., Srifa, W., Mantri, S., Nicolas, C. E., Lee, C., Bao, G., Kildebeck, E. J., Punjya, N., Sindhu, C., Inlay, M. A., Saxena, et al
2019; 10 (1): 1634
- **Identification of preexisting adaptive immunity to Cas9 proteins in humans. Nature medicine**
Charlesworth, C. T., Deshpande, P. S., Dever, D. P., Camarena, J., Lemgart, V. T., Cromer, M. K., Vakulskas, C. A., Collingwood, M. A., Zhang, L., Bode, N. M., Behlke, M. A., Dejene, B., Cieniewicz, et al
2019
- **Author Correction: Gene correction for SCID-X1 in long-term hematopoietic stem cells. Nature communications**
Pavel-Dinu, M. n., Wiebking, V. n., Dejene, B. T., Srifa, W. n., Mantri, S. n., Nicolas, C. E., Lee, C. n., Bao, G. n., Kildebeck, E. J., Punjya, N. n., Sindhu, C. n., Inlay, M. A., Saxena, et al
2019; 10 (1): 5624
- **High-efficiency CRISPR induction of t(9;11) chromosomal translocations and acute leukemias in human blood stem cells. Blood advances**
Jeong, J. n., Jager, A. n., Domizi, P. n., Pavel-Dinu, M. n., Gojenola, L. n., Iwasaki, M. n., Wei, M. C., Pan, F. n., Zehnder, J. L., Porteus, M. H., Davis, K. L., Cleary, M. L.
2019; 3 (19): 2825–35
- **Author Correction: Gene correction for SCID-X1 in long-term hematopoietic stem cells. Nature communications**
Pavel-Dinu, M. n., Wiebking, V. n., Dejene, B. T., Srifa, W. n., Mantri, S. n., Nicolas, C. E., Lee, C. n., Bao, G. n., Kildebeck, E. J., Punjya, N. n., Sindhu, C. n., Inlay, M. A., Saxena, et al
2019; 10 (1): 2021
- **CRISPR-Mediated Targeted Insertion of Cybb cDNAs into the Cybb Locus for Correction of X-CGD Patient CD34(+) Cells**
Sweeney, C. L., Choi, U., Pavel-Dinu, M., Koontz, S., Li, L., Theobald, N., Lee, J., Wu, X., Porteus, M. H., Malech, H. L., De Ravin, S.
CELL PRESS.2018: 233
- **Genome Editing for IL-10 Deficiency in Purified Hematopoietic Stem Cells**
Romano, R., Pavel-Dinu, M., Bacchetta, R., Porteus, M. H., Roncarolo, M.
CELL PRESS.2018: 237–38
- **Genome Editing of Long-Term Human Hematopoietic Stem Cells for X-Linked Severe Combined Immunodeficiency**
Pavel-Dinu, M., Wiebking, V., Dejene, B. T., Srifa, W., Mantri, S., Nicolas, C., Lee, C. M., Bao, G., Kildebeck, E., Punjya, N., Sindhu, C., Inlay, M. A., Saxena, et al
SPRINGER/PLENUM PUBLISHERS.2018: 365–66
- **A high-fidelity Cas9 mutant delivered as a ribonucleoprotein complex enables efficient gene editing in human hematopoietic stem and progenitor cells. Nature medicine**
Vakulskas, C. A., Dever, D. P., Rettig, G. R., Turk, R. n., Jacobi, A. M., Collingwood, M. A., Bode, N. M., McNeill, M. S., Yan, S. n., Camarena, J. n., Lee, C. M., Park, S. H., Wiebking, et al
2018; 24 (8): 1216–24
- **CRISPR/Cas9 β -globin gene targeting in human haematopoietic stem cells. Nature**
Dever, D. P., Bak, R. O., Reinisch, A., Camarena, J., Washington, G., Nicolas, C. E., Pavel-Dinu, M., Saxena, N., Wilkens, A. B., Mantri, S., Uchida, N., Hendel, A., Narla, et al
2016
- **A crispr look at genome editing: RNA-guided genome modification. Molecular therapy : the journal of the American Society of Gene Therapy**
Damian, M., Porteus, M. H.

2013; 21 (4): 720-722

● **A Crisper Look at Genome Editing: RNA-guided Genome Modification** *MOLECULAR THERAPY*

Damian, M., Porteus, M. H.

2013; 21 (4): 719-721

● **Reprogramming towards pluripotency requires AID-dependent DNA demethylation** *NATURE*

Bhutani, N., Brady, J. J., Damian, M., Sacco, A., Corbel, S. Y., Blau, H. M.

2010; 463 (7284): 1042-U57

● **SIRT6 Links Histone H3 Lysine 9 Deacetylation to NF-kappa B-Dependent Gene Expression and Organismal Life Span** *CELL*

Kawahara, T. L., Michishita, E., Adler, A. S., Damian, M., Berber, E., Lin, M., McCord, R. A., Ongaigui, K. C., Boxer, L. D., Chang, H. Y., Chua, K. F.

2009; 136 (1): 62-74

● **SIRT6 is a histone H3 lysine 9 deacetylase that modulates telomeric chromatin** *NATURE*

Michishita, E., McCord, R. A., Berber, E., Kioi, M., Padilla-Nash, H., Damian, M., Cheung, P., Kusumoto, R., Kawahara, T. L., Barrett, J. C., Chang, H. Y., Bohr, V. A., Ried, et al

2008; 452 (7186): 492-U16