Stanford

Sheri Krams

Senior Associate Dean, Graduate Education and Postdoctoral Affairs and Professor of Surgery (Abdominal Transplantation)

Surgery - Abdominal Transplantation

CONTACT INFORMATION

- **Administrative Contact**

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Bio

ACADEMIC APPOINTMENTS

- Professor, Surgery - Abdominal Transplantation
- Member, Bio-X
- Member, Maternal & Child Health Research Institute (MCHRI)

ADMINISTRATIVE APPOINTMENTS

- Senior Associate Dean for Graduate Education and Postdoctoral Affairs, Stanford, (2020- present)

HONORS AND AWARDS

- Elected Fellow of the American Society of Transplantation (FAST), American Society of Transplantation (2015)
- Stanford School of Medicine Excellence in Teaching Award., Stanford School of Medicine (2014)
- AST Basic Science Investigator Award, American Society of Transplantation (2013)
- International Basic Science Mentor Award, The Transplantation Society (2010)
- Stanford Immunology Faculty Mentor Award, Stanford Immunology (2009)
- School of Medicine Faculty Fellows, Stanford University School of Medicine (2007)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Chair of pre-doctoral Admissions, Stanford immunology (2012 - 2020)
- Executive Committee Member, Community of Basic Scientists, American Society of Transplantation (2012 - 2015)
- Committee of Graduate Admissions and Policies (CGAP), Stanford University (2010 - present)
- Transplantation and Tolerance Study Section, NIH (2010 - 2014)
- Education Committee, American Society of Transplantation (2009 - 2012)
- Chair, Basic Sciences Committee, American Society of Transplantation (2007 - 2009)
- Cellular and Molecular Immunology Study Section, NIH (2003 - 2005)

PROFESSIONAL EDUCATION

- PostDoc, UCSF , Transplantation (1993)
- PhD, University of California, Davis , Immunology (1989)

PATENTS

- Sheri Krams. "United States Patent 9,623,040 Immunomodulation by controlling expression levels of microRNAs in dendritic cells", Leland Stanford Junior University, Apr 18, 0017

LINKS

- Krams lab: http://med.stanford.edu/kramsmartinezlabs.html

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

NK Cell Responses to EBV

Natural killer (NK) are regarded as critical in the early immune response to EBV, but their role in controlling expansion of infected B cells is not understood. Our studies using computational cellular deconvolution approaches of public gene array data sets indicate that NK cells are increased in EBV+ PTLD tumor lesions, and in vitro studies demonstrate that NKG2A+ is expressed on NK cells which recognize and kill autologous EBV-infected B cells. Further, the non-classical MHC molecule, HLA-E, the ligand for NKG2A, is expressed on EBV+ B cell lymphoma lines and peptides from EBV latent cycle proteins can bind to HLA-E. We suggest that NKG2A+ NK cells recognize and respond to EBV+ B cells, and that NKG2A functions as a checkpoint molecule. Further, we predict that targeting the NKG2A/HLA-E interaction can potentiate the ability of NKG2A+ immune cells to mediate cytotoxicity against EBV+ B cell lymphomas. Current projects include: 1) Determining the influence of EBV peptide binding to HLA-E in the reactivity of NKG2A+ NK cells, determining the natural peptidome for HLA-E expressed on EBV+ B cell lymphoma lines. 2) Establishing the phenotype and function of NKG2A+ NK cells & NKG2A+ T cells in patients who develop EBV+ PTLD using patient samples and mass cytometry (CyTOF). We anticipate these studies will yield a new understanding of the immune response to EBVs, will increase our knowledge of the regulation and function of NKG2A+ immune cells, and will provide the basis of innovative and much needed therapeutic approaches for EBV+ PTLD and other EBV-associated malignancies.

Exosomes in Immune Responses

Solid organ transplantation is currently the treatment of choice for children with a variety of end-stage organ diseases. The success of clinical transplantation is dependent on the use of potent immunosuppressive drugs to prevent rejection of the allograft. However, even with our arsenal of immunosuppressive agents, nearly half of pediatric transplant recipients will have a rejection episode in the first-year post-transplant. Clearly, acute rejection remains a major hurdle in pediatric solid organ transplantation. Exosomes are nanometric (50-150nm) membrane vesicles that are released, into blood and other body fluids, by most cell types and can transfer cytosolic proteins and nucleic acids. We have shown thatt exosomes contain and transfer microRNAs (miRs) between cells that allow for local and distant intercellular communication. MicroRNAs,short non-coding RNA molecules can post-transcriptionally regulate messenger RNA transcripts, resulting in translational repression. On going projects are focused on sequencing the exosome miRNome, analyze TCR and immunoglobulin heavy chain repertoires, and a multi-parameter analysis of the alloimmune response by mass cytometry with the goal of identifying biomarkers associated with and predictive of graft outcomes.

Plasmacytoid Dendritic Cell-Mediated Graft Prolongation

Dendritic cells (DCs) are antigen-presenting cells (APCs) important for initiating and coordinating the immune response. Plasmacytoid dendritic cells (pDCs) are a subset of DCs and multiple studies report a tolerogenic phenotype of immature pDCs. Using experimental models of transplantation, our studies demonstrate that f donor pDCs prolongs allograft survival. To determine factors unique to the tolerogenic phenotype of pDCs we performed a microRNA (miRNA) microarray, and our results show that the miR-181 family of miRNAs is increased in pDCs. Likewise, pDCs deficient in miR-181a fail to prolong allograft survival. Semaphorin 4a, which is involved in immunomodulation and is required for the function and stability of regulatory T (Treg) cells, is decreased in miR-181 deficient pDCs. Together our results show a critical role for miR-181 regulating the tolerogenic potential of pDCs and additional studies will are focused on developing novel therapeutics for graft prolongation.

CLINICAL TRIALS

- Biomarkers for Post-Transplant Lymphoproliferative Disorders in Children, Not Recruiting
- COVID-19: Pediatric Research Immune Network on SARS-CoV-2 and MIS-C, Not Recruiting

Teaching

COURSES

2024-25

- Advanced Immunology III: IMMUNOL 203 (Sum)

2023-24

- Advanced Immunology III: IMMUNOL 203 (Sum)

2022-23

- Advanced Immunology III: IMMUNOL 203 (Sum)
- No Pride in Stigma: Exploring viral outbreaks and the stigmas perpetuated against LGBTQ+ communities: BIOS 211 (Spr)

2021-22

- Advanced Immunology III: IMMUNOL 203 (Sum)

STANFORD ADVISEES

Postdoctoral Faculty Sponsor

Ayantika Sen, Tetsuya Tajima

Doctoral Dissertation Advisor (AC)

Josselyn Peña

Postdoctoral Research Mentor

Tetsuya Tajima

GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Immunology (Phd Program)

Publications

PUBLICATIONS

- **Interleukin-33 and liver natural killer cells: A novel perspective on antitumor activity in liver fibrosis.** *Hepatology research : the official journal of the Japan Society of Hepatology*
  Imaoka, Y., Ohira, M., Imaoka, K., Bekki, T., Nakano, R., Yano, T., Tanaka, Y., Nakayama, T., Akabane, M., Tajima, T., Yokota, S., Krams, S. M., Martinez, et al
  2024

- **Epstein-Barr virus-associated post-transplant lymphoproliferative disorders in pediatric transplantation: A prospective multicenter study in the United States.** *Pediatric transplantation*
  Tajima, T., Martinez, O. M., Bernstein, D., Boyd, S. D., Gratzinger, D., Lum, G., Sasaki, K., Tan, B., Twist, C. J., Weinberg, K., Armstrong, B., Desai, D. M., Mazariegos, et al
  2024; 28 (4): e14763

- **Application of Mass Cytometry Platforms to Solid Organ Transplantation.** *Transplantation*
  Zhang, W., Sen, A., Pena, J. K., Reitsma, A., Alexander, O. C., Tajima, T., Martinez, O. M., Krams, S. M.
  2024

- **Impact of Induction Therapy on Rejection in Pediatric Transplantation: A Multicenter Study in the US**
  Tajima, T., Chin, C., Desai, D. M., Fishbein, T. M., Mazariegos, G. V., Tekin, A., Venick, R., Krams, S. M., Martinez, O. M., Esquivel, C. O.
  LIPPINCOTT WILLIAMS & WILKINS.2023: S495

- **311.2: Risk factors for Epstein-Barr virus DNAemia in pediatric transplantation: A multicenter study in the United States.** *Transplantation*
  Tajima, T., Bernstein, D., Boyd, S. D., Gratzinger, D., Lum, G., Sasaki, K., Tan, B., Weinberg, K., Armstrong, B., Brown, M., Chin, C., Desai, D., Fishbein, et al
  2023; 107 (10S1): 71-72

- **Highlights from the 12th congress of the international pediatric transplant association, Austin, Texas 2023.** *Pediatric transplantation*
  Chinnakotla, S., Esquivel, C., Twombley, K., Posfay-Barbe, K., Krams, S. M.
  2023: e14592

- **High-dimensional profiling of pediatric immune responses to solid organ transplantation.** *Cell reports. Medicine*
  Rao, M., Amouzgar, M., Harden, J. T., Lapasaran, M. G., Trickey, A., Armstrong, B., Odim, J., Debnam, T., Esquivel, C. O., Bendall, S. C., Martinez, O. M., Krams, S. M.
  2023: 101147

- **Epstein-Barr virus-associated post-transplant lymphoproliferative disorders in pediatric transplantation: A prospective multicenter study in the United States**
  Tajima, T., Bernstein, D., Boyd, S. D., Gratzinger, D., Lum, G., Sasaki, K., Tan, B., Twist, C. J., Weinberg, K., Robien, M. A., Brown, M., Armstrong, B., Desai, et al
  WILEY.2023

- **High-resolution natural killer cell phenotyping by mass cytometry in pediatric transplant recipients**
  Zhang, W., Pena, J. K., Boonrat, P., Harden, J. T., Esquivel, C. O., Martinez, O. M., Krams, S. M.
  WILEY.2023

- **Extracellular vesicle microRNAs are decreased in pediatric solid-organ transplant recipients during EBV plus post-transplant lymphoproliferative disorder**
  Sen, A., Enriquez, J., Rao, M., Esquivel, C. O., Martinez, O. M., Krams, S. M.
  WILEY.2023

- **Mutations In Latent Membrane Protein 1 of Epstein-Barr Virus are Associated with Increased Risk for Post-Transplant Lymphoproliferative Disorder in Children.** *American journal of transplantation : official journal of the American Society of Transplantation and the American Society of Transplant Surgeons*
  Martinez, O. M., Krams, S. M., Robien, M. A., Lapasaran, M. G., Arvedson, M. P., Reitsma, A., Balachandran, Y., Harris-Arnold, A., Weinberg, K., Boyd, S. D., Armstrong, B., Trickey, A., Twist, et al
  2023

- **IDENTIFYING NOVEL GENE TARGETS FOR DIAGNOSIS AND TREATEMENT OF HCC IN ASIAN AND CAUCASIAN POPULATIONS BASED ON WHOLE GENOME SEQUENCING**
  Hong, S., Badshah, J., Aliwaisi, A., Sasaki, K., Pruett, T., Melcher, M., Bonham, C., Gallo, A., Martinez, O., Krams, S., Pham, K., Busque, S., Reitsma, et al
  ELSEVIER SCIENCE INC.2023: S28

- **Human IL-10-producing B cells have diverse states that are induced from multiple B cell subsets.** *Cell reports*
  Glass, M. C., Glass, D. R., Oliveria, J. P., Mbiribindi, B., Esquivel, C. O., Krams, S. M., Bendall, S. C., Martinez, O. M.
  2022; 39 (3): 110728

- **Mutations in latent membrane protein 1 of Epstein Barr virus are associated with increased risk of post-transplant lymphoproliferative disorder**
  Martinez, O. M., Krams, S. M., Robien, M., Lapasaran, M. M., Arvedson, M., Reitsma, A., Weinberg, K., Boyd, S., Armstrong, B., Twist, C., Gratzinger, D., Tan, B., Trickey, et al
  WILEY.2022

- **Host microRNAs are decreased in pediatric solid-organ transplant recipients during EBV+ Post-transplant Lymphoproliferative Disorder.** *Frontiers in immunology*
  Sen, A., Enriquez, J., Rao, M., Glass, M., Balachandran, Y., Syed, S., Twist, C. J., Weinberg, K., Boyd, S. D., Bernstein, D., Trickey, A. W., Gratzinger, D., Tan, et al
  2022; 13: 994552
- **High-resolution phenotyping of early acute rejection reveals a conserved alloimmune signature.** *Cell reports*
  Harden, J. T., Wang, X. n., Toh, J. n., Sang, A. X., Brown, R. A., Esquivel, C. O., Martinez, O. M., Krams, S. M.
  2021; 34 (9): 108806
- **Epstein-Barr virus peptides derived from latent cycle proteins alter NKG2A+NK cell effector function.** *Scientific reports*
  Mbiribindi, B., Pena, J. K., Arvedson, M. P., Moreno Romero, C., McCarthy, S. R., Hatton, O. L., Esquivel, C. O., Martinez, O. M., Krams, S. M.
  2020; 10 (1): 19973
- **Genomic variations in EBNA3C of EBV associate with posttransplant lymphoproliferative disorder.** *JCI insight*
  Maloney, E. M., Busque, V. A., Hui, S. T., Toh, J. n., Fernandez-Vina, M. n., Krams, S. M., Esquivel, C. O., Martinez, O. M.
  2020; 5 (6)
- **Establishment of Heterotopic Hind Limb Transplantation Model in the Mouse.** *Transplantation proceedings*
  Wang, X. n., Harden, J. T., Sang, A. X., Esquivel, C. O., Martinez, O. n., Krams, S. M.
  2020
- **Hyaluronan synthesis inhibition impairs antigen presentation and delays transplantation rejection.** *Matrix biology : journal of the International Society for Matrix Biology*
  Marshall, P. L., Nagy, N. n., Kaber, G. n., Barlow, G. L., Ramesh, A. n., Xie, B. J., Linde, M. H., Haddock, N. L., Lester, C. A., Tran, Q. L., de Vries, C. n., Hargil, A. n., Malkovskiy, et al
  2020
- **Epstein-Barr Virus Latent Membrane Protein 1 Regulates Host B Cell MicroRNA-155 and Its Target FOXO3a via PI3K p110 alpha Activation** *FRONTIERS IN MICROBIOLOGY*
  Hatton, O., Smith, M. M., Alexander, M., Mandell, M., Sherman, C., Stesney, M. W., Hui, S., Dohrn, G., Medrano, J., Ringwalt, K., Harris-Arnold, A., Maloney, E. M., Krams, et al
  2019; 10
- **Epstein-Barr Virus Latent Membrane Protein 1 Regulates Host B Cell MicroRNA-155 and Its Target FOXO3a via PI3K p110# Activation.** *Frontiers in microbiology*
  Hatton, O., Smith, M. M., Alexander, M., Mandell, M., Sherman, C., Stesney, M. W., Hui, S. T., Dohrn, G., Medrano, J., Ringwalt, K., Harris-Arnold, A., Maloney, E. M., Krams, et al
  2019; 10: 2692
- **Differential role of natural killer group 2D in recognition and cytotoxicity of hepatocyte-like cells derived from embryonic stem cells and induced pluripotent stem cells** *AMERICAN JOURNAL OF TRANSPLANTATION*
  Cisneros, T., Dillard, D. W., Qu, X., Arredondo-Guerrero, J., Castro, M., Schaffert, S., Martin, R., Esquive, C. O., Krams, S. M., Martinez, O. M.
  2019; 19 (6): 1652–62
- **Dual blockade of the PI3K/Akt/mTOR pathway inhibits posttransplant Epstein-Barr virus B cell lymphomas and promotes allograft survival** *AMERICAN JOURNAL OF TRANSPLANTATION*
  Sang, A. X., McPherson, M. C., Ivison, G. T., Qu, X., Rigdon, J., Esquivel, C. O., Krams, S. M., Martinez, O. M.
  2019; 19 (5): 1305–14
- **Characterization of genomic alterations in EBV plus PTLD**
  Krams, S. M., Arvedson, M., Maloney, E., Balachandran, Y., McPherson, M., Boyd, S. D., Esquivel, C. O., Martinez, O. M.
  WILEY.2019
- **Genomic diversity of Epstein-Barr Virus in post-transplant lymphoproliferative disorder**
  Martinez, O., Maloney, E., Busque, V., Hui, S., Esquivel, C. O., Krams, S.
  WILEY.2019
- **Natural killer cells as modulators of alloimmune responses** *CURRENT OPINION IN ORGAN TRANSPLANTATION*
  Mbiribindi, B., Harden, J. T., Pena, J. K., Krams, S. M.
  2019; 24 (1): 37–41

- **Differential role of natural killer group 2D in recognition and cytotoxicity of hepatocyte-like cells derived from embryonic stem cells and induced pluripotent stem cells.** *American journal of transplantation : official journal of the American Society of Transplantation and the American Society of Transplant Surgeons*
  Cisneros, T., Dillard, D. W., Qu, X., Arredondo-Guerrero, J., Castro, M., Schaffert, S., Martin, R., Esquivel, C. O., Krams, S. M., Martinez, O. M.
  2018

- **Dual blockade of the PI3K/Akt/mTOR pathway inhibits post-transplant Epstein-Barr virus B cell lymphomas and promotes allograft survival.** *American journal of transplantation : official journal of the American Society of Transplantation and the American Society of Transplant Surgeons*
  Sang, A. X., McPherson, M. C., Ivison, G. T., Qu, X., Rigdon, J., Esquivel, C. O., Krams, S. M., Martinez, O. M.
  2018

- **Prospective Analysis of EBV plus PTLD in a Multi-Center Study of Pediatric Transplant Recipients**
  Martinez, O. M., Krams, S. M., Lapasaran, M., Boyd, S. D., Bernstein, D., Twist, C., Weinberg, K., Gratzinger, D., Tan, B., Armstrong, B., Ikle, D., Brown, M., Robien, et al
  LIPPINCOTT WILLIAMS & WILKINS.2018: S319

- **Genomic Status of the Epstein Barr Virus and Virus-Associated PI3K/Akt/mTOR Pathway Dysregulation in Post-Transplant Lymphoproliferative Disorder**
  McPherson, M., Balachandran, Y., Boyd, S. D., Zimmermann, H., Trappe, R. U., Esquivel, C. O., Krams, S. M., Martinez, O. M.
  LIPPINCOTT WILLIAMS & WILKINS.2018: S95

- **Delineation of the Viral and Host Cell Genomic Alterations in EBV-positive PTLD**
  Balachandran, Y., McPherson, M., Boyd, S. D., Esquivel, C. O., Krams, S., Martinez, O. M.
  LIPPINCOTT WILLIAMS & WILKINS.2018: S319

- **Identifying shared patterns in the T cell receptor repertoire specific to IE-1 CMV**
  Lucia Perez, M., Rubelt, F., Luque, S., Krams, S. M., Esquivel, C. O., Bestard, O., Martinez, O. M.
  LIPPINCOTT WILLIAMS & WILKINS.2018: S141

- **Application of Mass Cytometry for Analysis of the Alloimmune Response in a Model of Vascularized Composite Allotransplantation**
  Harden, J. T., Sang, A. X., Qu, X., Esquivel, C., Martinez, O. M., Krams, S. M.
  LIPPINCOTT WILLIAMS & WILKINS.2018: S198

- **Epstein-Barr Virus Genome Variation in Post-Transplant Lymphoproliferative Disorder**
  Maloney, E., Busque, V. A., Hui, S., Krams, S. M., Esquivel, C. O., Martinez, O. M.
  LIPPINCOTT WILLIAMS & WILKINS.2018: S95

- **Elucidation of the miRNome in EBV-positive and EBV-negative PTLD**
  Balachandran, Y., Zimmermann, H., Esquivel, C. O., Krams, S., Trappe, R. U., Martinez, O. M.
  LIPPINCOTT WILLIAMS & WILKINS.2018: S96

- **NK Cell Recognition of Peptides Encoded by EBV Latent Cycle Proteins**
  Mbiribindi, B., Moreno, C., Esquivel, C. O., Martinez, O. M., Krams, S. M.
  LIPPINCOTT WILLIAMS & WILKINS.2018: S283

- **Micro-RNAs in transplant tolerance** *CURRENT OPINION IN ORGAN TRANSPLANTATION*
  Harden, J. T., Krams, S. M.
  2018; 23 (1): 66–72

- **Dynamics of Viral and Host Immune Cell MicroRNA Expression during Acute Infectious Mononucleosis** *FRONTIERS IN MICROBIOLOGY*
  Kaul, V., Weinberg, K. I., Boyd, S. D., Bernstein, D., Esquivel, C. O., Martinez, O. M., Krams, S. M.
  2018; 8

- **Inhibition of Multiple Nodes in the PI3K/Akt/mTOR Pathway Synergistically Suppresses Post-Transplant B Cell Lymphomas**
  Sang, A., McPherson, M., Ivison, G., Qu, X., Rigdon, J., Esquivel, C., Krams, S., Martinez, O.
  WILEY.2018: 20

- **Natural killer cells as modulators of alloimmune responses.** *Current opinion in organ transplantation*
  Mbiribindi, B. n., Harden, J. T., Pena, J. K., Krams, S. M.
  2018

- **The Immune Response to Epstein Barr Virus and Implications for Posttransplant Lymphoproliferative Disorder.** *Transplantation*
  Martinez, O. M., Krams, S. M.
  2017

- **Absence of miR-182 Augments Cardiac Allograft Survival.** *Transplantation*
  Wei, L., Kaul, V., Qu, X., Xiong, X., Lau, A. H., Iwai, N., Martinez, O. M., Krams, S. M.
  2017; 101 (3): 524-530

- **Identifying specificity groups in the T cell receptor repertoire.** *Nature*
  Glanville, J. n., Huang, H. n., Nau, A. n., Hatton, O. n., Wagar, L. E., Rubelt, F. n., Ji, X. n., Han, A. n., Krams, S. M., Pettus, C. n., Haas, N. n., Arlehamn, C. S., Sette, et al
  2017

- **Dynamics of Viral and Host Immune Cell MicroRNA Expression during Acute Infectious Mononucleosis.** *Frontiers in microbiology*
  Kaul, V. n., Weinberg, K. I., Boyd, S. D., Bernstein, D. n., Esquivel, C. O., Martinez, O. M., Krams, S. M.
  2017; 8: 2666

- **NKG2A-Expressing Natural Killer Cells Dominate the Response to Autologous Lymphoblastoid Cells Infected with Epstein-Barr Virus** *FRONTIERS IN IMMUNOLOGY*
  Hatton, O., Strauss-Albee, D. M., Zhao, N. Q., Haggadone, M. D., Pelpola, J. S., Krams, S. M., Martinez, O. M., Blish, C. A.
  2016; 7

- **Applying Mass Cytometry to the Analysis of Lymphoid Populations in Transplantation.** *American journal of transplantation*
  Krams, S. M., Schaffert, S., Lau, A. H., Martinez, O. M.
  2016

- **Mass cytometry reveals a distinct immunoprofile of operational tolerance in pediatric liver transplantation.** *Pediatric transplantation*
  Lau, A. H., Vitalone, M. J., Haas, K., Shawler, T., Esquivel, C. O., Berquist, W. E., Martinez, O. M., Castillo, R. O., Krams, S. M.
  2016

- **Epstein-Barr virus-associated lymphoepithelial carcinoma after pediatric liver transplant** *LIVER TRANSPLANTATION*
  Sang, A. X., Harris-Arnold, A., Kambham, N., Martinez, O. M., Krams, S. M., Strichartz, D., Esquivel, C. O.
  2016; 22 (6): 849–53

- **Liver microRNA Profile of Induced Allograft Tolerance.** *Transplantation*
  Vitalone, M. J., Wei, L., Fujiki, M., Lau, A. H., Littau, E., Esquivel, C., Martinez, O. M., Krams, S. M.
  2016; 100 (4): 781-790

- **Glycyrrhizin protects against focal cerebral ischemia via inhibition of T cell activity and HMGB1-mediated mechanisms.** *Journal of neuroinflammation*
  Xiong, X., Gu, L., Wang, Y., Luo, Y., Zhang, H., Lee, J., Krams, S., Zhu, S., Zhao, H.
  2016; 13 (1): 241-?

- **Epstein-Barr Virus Modulates Host Cell MicroRNA-194 to Promote IL-10 Production and B Lymphoma Cell Survival** *AMERICAN JOURNAL OF TRANSPLANTATION*
  Harris-Arnold, A., Arnold, C. P., Schaffert, S., Hatton, O., Krams, S. M., Esquivel, C. O., Martinez, O. M.
  2015; 15 (11): 2814-2824

- **NKp46 clusters at the immune synapse and regulates NK cell polarization** *FRONTIERS IN IMMUNOLOGY*
  Hadad, U., Thauland, T. J., Martinez, O. M., Butte, M. J., Porgador, A., Krams, S. M.
  2015; 6

- **MicroRNAs as master regulators of immune responses in transplant recipients.** *Current opinion in organ transplantation*
  Kaul, V., Krams, S.
  2015; 20 (1): 29-36

- **NK cells after transplantation: friend or foe.** *Immunologic research*
  Hadad, U., Martinez, O., Krams, S. M.
  2014; 58 (2-3): 259-267

- **The interplay between Epstein-Barr virus and B lymphocytes: implications for infection, immunity, and disease.** *Immunologic research*

Hatton, O. L., Harris-Arnold, A., Schaffert, S., Krams, S. M., Martinez, O. M.
2014; 58 (2-3): 268-276

- **Moderate Hypothermia Inhibits Brain Inflammation and Attenuates Stroke-Induced Immunodepression in Rats** *CNS NEUROSCIENCE & THERAPEUTICS*
  Gu, L., Xiong, X., Ito, T., Lee, J., Xu, B., Krams, S., Steinberg, G. K., Zhao, H.
  2014; 20 (1): 67-75

- **Differential expression and functions of microRNAs in liver transplantation and potential use as non-invasive biomarkers.** *Transplant immunology*
  Wei, L., Gong, X., Martinez, O. M., Krams, S. M.
  2013; 29 (1-4): 123-129

- **Natural Killer Cell-Activating Receptor NKG2D Mediates Innate Immune Targeting of Allogeneic Neural Progenitor Cell Grafts** *STEM CELLS*
  Phillips, L. K., Gould, E. A., Babu, H., Krams, S. M., Palmer, T. D., Martinez, O. M.
  2013; 31 (9): 1829-1839

- **PI3K Inhibition Augments the Efficacy of Rapamycin in Suppressing Proliferation of Epstein-Barr Virus (EBV) plus B Cell Lymphomas** *AMERICAN JOURNAL OF TRANSPLANTATION*
  Furukawa, S., Wei, L., Krams, S. M., Esquivel, C. O., Martinez, O. M.
  2013; 13 (8): 2035-2043

- **Syk-Induced Phosphatidylinositol-3-Kinase Activation in EpsteinBarr Virus Posttransplant Lymphoproliferative Disorder** *AMERICAN JOURNAL OF TRANSPLANTATION*
  Hatton, O., Lambert, S. L., Phillips, L. K., Vaysberg, M., Natkunam, Y., Esquivel, C. O., Krams, S. M., Martinez, O. M.
  2013; 13 (4): 883-890

- **NKp46 Expression Accelerates the Formation of the NK Cell Lytic Immune Synapse** *13th American Transplant Congress (ATC)*
  Hadad, U., Thauland, T., BUTTE, M., Krams, S.
  WILEY-BLACKWELL.2013: 491–492

- **MicroRNA 194 Regulates Apoptosis in Epstein Barr Virus plus B Cell Lymphomas Associated with Post-Transplant Lymphoproliferative Disorder.** *13th American Transplant Congress (ATC)*
  Harris-Arnold, A., Lambert, S., Krams, S., Martinez, O.
  WILEY-BLACKWELL.2013: 96–96

- **PI3K delta Inhibition Augments the Efficacy of mTOR Inhibitor Rapamycin on the Proliferation of Epstein-Barr Virus (EBV) plus B Cell Lymphomas.** *13th American Transplant Congress (ATC)*
  Furukawa, S., Hatton, O., Krams, S., Esquivel, C., Martinez, O.
  WILEY-BLACKWELL.2013: 96–97

- **T Cells Contribute to Stroke-Induced Lymphopenia in Rats** *PLOS ONE*
  Gu, L., Xiong, X., Wei, D., Gao, X., Krams, S., Zhao, H.
  2013; 8 (3)

- **Src Kinase and Syk Activation Initiate PI3K Signaling by a Chimeric Latent Membrane Protein 1 in Epstein-Barr Virus (EBV) plus B Cell Lymphomas** *PLOS ONE*
  Hatton, O., Lambert, S. L., Krams, S. M., Martinez, O. M.
  2012; 7 (8)

- **Differential Expression of MicroRNAs During Allograft Rejection** *AMERICAN JOURNAL OF TRANSPLANTATION*
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