Stanford

Sheri Krams

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

Surgery - Abdominal Transplantation

CONTACT INFORMATION

- **Alternate Contact**

  Audra Gallant - Administrative Associate

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Bio

ACADEMIC APPOINTMENTS

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

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 - present)
- 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

Teaching

COURSES

2020-21

- Advanced Immunology III: IMMUNOL 203 (Sum)
- Career Explorations Opportunities: Transitioning to your Career Choice: BIOS 281 (Win)

2019-20

- Advanced Immunology III: IMMUNOL 203 (Sum)
- Career Explorations Opportunities: Transitioning to your Career Choice: BIOS 281 (Win)
- Current Concepts in Transplantation: SURG 68Q (Win)

2018-19

- Advanced Immunology III: IMMUNOL 203 (Sum)
- Current Concepts in Transplantation: SURG 68Q (Spr)

2017-18

- Advanced Immunology III: IMMUNOL 203 (Sum)
- Career Exploration Opportunities (CEO) Internship Development: SOMGEN 227 (Win)
- Current Concepts in Transplantation: SURG 68Q (Spr)

STANFORD ADVISEES

Doctoral Dissertation Reader (AC)

Geoffrey Ivison, Jiaying Toh

Postdoctoral Faculty Sponsor

Berenice Mbiribindi, Ayantika Sen

Doctoral Dissertation Advisor (AC)

James Harden, Josselyn Peña

GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Immunology (Phd Program)

Publications

PUBLICATIONS

- **Genomic variations in EBNA3C of EBV associate with posttransplant lymphoproliferative disorder.** *JCI insight*
  Maloney, E. M., Busque, V. A., Hui, S. T., Toh, J., Fernandez-Vina, M., Krams, S. M., Esquivel, C. O., Martinez, O. M.
  2020; 5 (6)
- **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

- **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

- **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 : 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
- **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., 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., Huang, H., Nau, A., Hatton, O., Wagar, L. E., Rubelt, F., Ji, X., Han, A., Krams, S. M., Pettus, C., Haas, 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., Weinberg, K. I., Boyd, S. D., Bernstein, D., 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

- **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

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

- **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*
  Wei, L., Wang, M., Qu, X., MAH, A., Xiong, X., Harris, A. G., Phillips, L. K., Martinez, O. M., Krams, S. M.
  2012; 12 (5): 1113-1123
- **Modulation of IL-10 Specific B Cell microRNAs by Latent Membrane Protein 1 and Epstein-Barr Virus** *24th Annual Meeting of the European-Association-for-Cardiothoracic-Surgery*
  Harris-Arnold, A., Lambert, S., Krams, S., Martinez, O.
  WILEY-BLACKWELL.2012: 162–162
- **EBV-Induced PI3K/Akt/mTOR Signaling Regulates B Cell microRNA Expression in Post-Transplant Lymphoproliferative Disorder (PTLD)** *24th Annual Meeting of the European-Association-for-Cardiothoracic-Surgery*
  Hatton, O., Harris, A., Lund, P., Krams, S. M., Marintez, O. M.
  WILEY-BLACKWELL.2012: 186–186
- **Changes in natural killer cell subsets in pediatric liver transplant recipients** *PEDIATRIC TRANSPLANTATION*
  Pham, B., Piard-Ruster, K., Silva, R., Gallo, A., Esquivel, C. O., Martinez, O. M., Krams, S. M.
  2012; 16 (2): 176-182
- **Syk Activation of Phosphatidylinositol 3-Kinase/Akt Prevents HtrA2-dependent Loss of X-linked Inhibitor of Apoptosis Protein (XIAP) to Promote Survival of Epstein-Barr Virus plus (EBV plus) B Cell Lymphomas** *JOURNAL OF BIOLOGICAL CHEMISTRY*
  Hatton, O., Phillips, L. K., Vaysberg, M., Hurwich, J., Krams, S. M., Martinez, O. M.
  2011; 286 (43): 37368-37378
- **HIGH DOSES OF CALCINEURIN INHIBITORS ARE ASSOCIATED WITH LOW LEVELS OF T REGULATORY CELLS IN PEDIATRIC LIVER TRANSPLANT RECIPIENTS.**
  Piard-Ruster, K. S., Silva, R., Berquist, W., Pham, B., Gallo, A., Krams, S. M., Esquivel, C. O., Martinez, O. M.
  WILEY-BLACKWELL.2011: 57–57
- **The effect of MICA antigens on transplant outcomes: A systematic review.** *Journal of evidence-based medicine*
  Lu, J., Luo, L., Guo, Y., Long, D., Wei, L., Shan, J., Feng, L., Li, S., Yang, x., Lu, Y., Krams, S., Li, Y.
  2011; 4 (2): 106-121
- **Rejection of Small Intestinal Allografts Associates with a Unique Signature of microRNAs** *American Transplant Congress*
  Krams, S. M., Wei, L., Pham, B., Harris, A., Castillo, R. O., Esquivel, C. O., Martinez, O.
  WILEY-BLACKWELL.2011: 133–133
- **Neural Stem/Progenitor Cells Are Targets for Natural Killer Cell-Mediated Killing** *American Transplant Congress*
  Phillips, L. K., GOULD, E. A., Palmer, T. D., Krams, S. M., Martinez, O. M.
  WILEY-BLACKWELL.2011: 439–439
- **Targeting Akt for Treatment of Post-Transplant Lymphoproliferative Disorder (PTLD)** *American Transplant Congress*
  Hatton, O., Lambert, S., Krams, S. M., Esquivel, C. O., Martinez, O. M.
  WILEY-BLACKWELL.2011: 137–137
- **Moderate Hypothermia Attenuates Peripheral Immunodepression Caused by Stroke in Rats** *International Stroke Conference*
  Gu, L., Xiong, X., Ito, T., Lee, J., Krams, S., Steinberg, G. K., Zhao, H.

LIPPINCOTT WILLIAMS & WILKINS.2011: E302–E303

- **Glycyrrhizin Protects Against Focal Ischemia and Attenuates Peripheral Immunosuppression in Rats** *International Stroke Conference*
  Xiong, X., Gu, L., Li, L., Lee, J., Li, M., Xu, L., Giffard, R., Krams, S. M., Steinberg, G. K., Zhao, H.
  LIPPINCOTT WILLIAMS & WILKINS.2011: E67–E68

- **Distinct Roles for the NK Cell-Activating Receptors in Mediating Interactions with Dendritic Cells and Tumor Cells** *JOURNAL OF IMMUNOLOGY*
  Wai, L., Garcia, J. A., Martinez, O. M., Krams, S. M.
  2011; 186 (1): 222-229

- **Toll-Like Receptor 4 Contributes to Small Intestine Allograft Rejection** *TRANSPLANTATION*
  Krams, S. M., Wang, M., Castillo, R. O., Ito, T., Phillips, L., Higgins, J., Kambham, N., Esquivel, C. O., Martinez, O. M.
  2010; 90 (12): 1272-1277

- **Acute Rejection of Small Intestine Allografts Is Associated With Increased Expression of Toll-like Receptors** *TRANSPLANTATION PROCEEDINGS*
  Castillo, R. O., Wang, M., Ito, T., Higgins, J., Esquivel, C. O., Krams, S. M., Martinez, O. M.
  2010; 42 (7): 2676-2678

- **Identification of the rat NKG2D ligands, RAE1L and RRLT, and their role in allograft rejection** *EUROPEAN JOURNAL OF IMMUNOLOGY*
  Zhuo, M., Fujiki, M., Wang, M., Piard-Ruster, K., Wai, L., Wei, L., Martinez, O. M., Krams, S. M.
  2010; 40 (6): 1748-1757

- **MicroRNAs as Immune Regulators: Implications for Transplantation** *AMERICAN JOURNAL OF TRANSPLANTATION*
  Harris, A., Krams, S. M., Martinez, O. M.
  2010; 10 (4): 713-719

- **The Innate Immune Response Impairs Differentiation of Neural Progenitor Stem Cell Allografts** *10th American Transplant Congress*
  Phillips, L., Gould, E., Palmer, T., Krams, S. S., Martinez, O. M.
  WILEY-BLACKWELL.2010: 365–365

- **CD30 Activation of T Cells Causes Recruitment of TRAF Proteins and Induces P38-and Caspase-Dependent Apoptosis** *10th American Transplant Congress*
  Piard-Ruster, K. S., Hsieh, C. L., Krams, S. M., Martinez, O. M.
  WILEY-BLACKWELL.2010: 364–364

- **Effect of CP690,550 on the Jak/STAT Pathway in Adult Kidney Recipients.** *10th American Transplant Congress*
  Silva, R., Martinez, O. M., Krams, S. M., Busque, S.
  WILEY-BLACKWELL.2010: 145–145

- **Toll-Like Receptor 4 Contributes to Rejection of Small Intestine Allografts.** *10th American Transplant Congress*
  Krams, S. M., Wang, M., Castillo, R. O., Ito, T., Esquivel, C. O., Martinez, O. M.
  WILEY-BLACKWELL.2010: 312–312

- **Syk Inhibits Lymphoma Migration to the Lymph Node in a Xenotransplantaion Model of Epstein Barr Virus (EBV) plus Post-Transplant Lymphomproliferaive Disorder (PTLD)** *10th American Transplant Congress*
  Hatton, O., Lambert, S., Vaysberg, M., Krams, S. M., Esquivel, C. O., Martinez, O. M.
  WILEY-BLACKWELL.2010: 62–62

- **Natural Killer Cell Activation Receptor Expression Is Increased Post-Transplant in Pediatric Liver Transplant Recipients.** *10th American Transplant Congress*
  Pham, B., Silva, R., Piard-Ruster, K., Gallo, A., Esquivel, C. O., Martinez, O. M., Krams, S. M.
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