



Alma-Martina Cepika

Instructor, Pediatrics - Stem Cell Transplantation

Bio

BIO

Dr. Cepika is an immunologist with an extensive background in translational research, autoimmunity, autoinflammation, and human systems immunology. Her goal is to understand the mechanisms governing immunological tolerance, and to leverage this knowledge to cure currently incurable diseases.

Dr. Cepika received her MD degree and a PhD in Immunology from the University of Zagreb School of Medicine in Croatia. There, she focused on the immunomonitoring of patients with lupus, identifying how circulating DNA levels changed with therapy. Subsequently, she joined the lab of Dr. Virginia Pascual at the Baylor Institute for Immunology Research in Dallas, Texas. Dr. Pascual had previously discovered that IL-1beta is a key pathogenic player in systemic juvenile idiopathic arthritis (sJIA), but the immune alterations contributing to IL-1beta-mediated inflammation remained unknown. To address this, Dr. Cepika developed a 3D in vitro stimulation assay to evaluate immune responses of blood leukocytes of pediatric sJIA patients. In combination with integrated bioinformatics analysis, this approach identified aberrant cellular responses, transcriptional pathways and genes that shed new light on immune dysregulation in sJIA. This assay can be further applied to dissect underlying immunopathogenic mechanisms in many human disorders.

Currently, Dr. Cepika is a member of the laboratory of Dr. Maria Grazia Roncarolo, in the Pediatric Division of Stem Cell Biology and Regenerative Medicine at Stanford University School of Medicine. There, she is working to uncover the underlying mechanisms governing type 1 regulatory T (Tr1) cell differentiation and function, and use this knowledge to design Tr1 cell-based therapies for hematopoietic stem cell transplantation and cancer immunotherapy.

ACADEMIC APPOINTMENTS

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

HONORS AND AWARDS

- Best Short Talk Award, North Texas Flow Cytometry Conference (2016)
- Best Poster Award, ESF-EMBO symposium, "B cells: Complexity, Integration and Translation" (2008)
- Full Scholarship, Leadership and Management of Health Services, Andrija Stampar School of Public Health, School of Medicine, University of Zagreb (2006)
- Best Poster Award, Annual Meeting of Croatian Immunological Society (2005)
- Dean's Award for Best Student Research, School of Medicine, University of Zagreb (2002)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- member, Federation of Clinical Immunology Societies (FOCIS) (2017 - present)
- member, Society for Immunotherapy of Cancer (SITC) (2017 - present)

- member, Croatian Society for Immunology (2004 - 2010)

PROFESSIONAL EDUCATION

- Post-Doctoral Fellow, Baylor Institute For Immunology Research , Immunology / Autoinflammation (2016)
- PhD, School of Medicine, University of Zagreb , Immunology (2012)
- MD, School of Medicine, University of Zagreb , Medicine (2002)

LINKS

- Google Scholar Profile: <https://scholar.google.com/citations?user=Dg3BC8UAAAAJ&hl=en>
- LinkedIn Profile: <https://www.linkedin.com/in/acepika/>
- Roncarolo laboratory: <https://med.stanford.edu/roncarololab.html>

Publications

PUBLICATIONS

- **Engineered Type-1 Regulatory T Cells for Treatment of Graft-versus-Host Disease in Allogeneic Hematopoietic Stem Cell Transplant Recipients** Liu, J. H., Chen, P., Cieniewicz, B., Cepika, A., Bacchetta, R., Roncarolo, M. CELL PRESS.2019: 459
- **Tregopathies: Monogenic diseases resulting in regulatory T-cell deficiency.** *The Journal of allergy and clinical immunology* Cepika, A., Sato, Y., Liu, J. M., Uyeda, M. J., Bacchetta, R., Roncarolo, M. G. 2018; 142 (6): 1679–95
- **A multidimensional blood stimulation assay reveals immune alterations underlying systemic juvenile idiopathic arthritis** *JOURNAL OF EXPERIMENTAL MEDICINE* Cepika, A., Banchereau, R., Segura, E., Ohouo, M., Cantarel, B., Goller, K., Cantrell, V., Ruchaud, E., Gatewood, E., Phuong Nguyen, Gu, J., Anguiano, E., Zurawski, S., et al 2017; 214 (11): 3449–66
- **Understanding Human Autoimmunity and Autoinflammation Through Transcriptomics** *ANNUAL REVIEW OF IMMUNOLOGY, VOL 35* Banchereau, R., Cepika, A., Banchereau, J., Pascual, V., Littman, D. R., Yokoyama, W. M. 2017; 35: 337–70
- **Longitudinal profiling of human blood transcriptome in healthy and lupus pregnancy** *JOURNAL OF EXPERIMENTAL MEDICINE* Hong, S., Banchereau, R., Maslow, B. L., Guerra, M. M., Cardenas, J., Baisch, J., Branch, D., Porter, T., Sawitzke, A., Laskin, C. A., Buyon, J. P., Merrill, J., Sammaritano, et al 2019; 216 (5): 1154–69
- **Longitudinal profiling of human blood transcriptome in healthy and lupus pregnancy.** *The Journal of experimental medicine* Hong, S., Banchereau, R., Maslow, B. L., Guerra, M. M., Cardenas, J., Baisch, J., Branch, D. W., Porter, T. F., Sawitzke, A., Laskin, C. A., Buyon, J. P., Merrill, J., Sammaritano, et al 2019
- **IL1 Receptor Antagonist Controls Transcriptional Signature of Inflammation in Patients with Metastatic Breast Cancer** *CANCER RESEARCH* Wu, T., Xu, K., Martinek, J., Young, R. R., Banchereau, R., George, J., Turner, J., Kim, K., Zurawski, S., Wang, X., Blankenship, D., Brookes, H. M., Marches, et al 2018; 78 (18): 5243–58
- **Personalized Immunomonitoring Uncovers Molecular Networks that Stratify Lupus Patients** *CELL* Banchereau, R., Hong, S., Cantarel, B., Baldwin, N., Baisch, J., Edens, M., Cepika, A., Acs, P., Turner, J., Anguiano, E., Vinod, P., Kahn, S., Obermoser, et al 2016; 165 (3): 551–65
- **Transcriptional specialization of human dendritic cell subsets in response to microbial vaccines** *NATURE COMMUNICATIONS* Banchereau, R., Baldwin, N., Cepika, A., Athale, S., Xue, Y., Yu, C. I., Metang, P., Cheruku, A., Berthier, I., Gayet, I., Wang, Y., Ohouo, M., Snipes, et al 2014; 5: 5283

- **RNA recognition by human TLR8 can lead to autoimmune inflammation** *JOURNAL OF EXPERIMENTAL MEDICINE*
Guiducci, C., Gong, M., Cepika, A., Xu, Z., Tripodo, C., Bennett, L., Crain, C., Quartier, P., Cush, J. J., Pascual, V., Coffman, R. L., Barrat, F. J.
2013; 210 (13): 2903–19
- **Systems approaches to human autoimmune diseases** *CURRENT OPINION IN IMMUNOLOGY*
Banchereau, R., Cepika, A., Pascual, V.
2013; 25 (5): 598–605
- **Systems Scale Interactive Exploration Reveals Quantitative and Qualitative Differences in Response to Influenza and Pneumococcal Vaccines** *IMMUNITY*
Obermoser, G., Presnell, S., Domico, K., Xu, H., Wang, Y., Anguiano, E., Thompson-Snipes, L., Ranganathan, R., Zeitner, B., Bjork, A., Anderson, D., Speake, C., Ruchaud, et al
2013; 38 (4): 831–44
- **Immunodeficiency, autoinflammation and amylopectinosis in humans with inherited HOIL-1 and LUBAC deficiency** *NATURE IMMUNOLOGY*
Boisson, B., Laplantine, E., Prando, C., Giliani, S., Israelsson, E., Xu, Z., Abhyankar, A., Israel, L., Trevejo-Nunez, G., Bogunovic, D., Cepika, A., MacDuff, D., Chrabieh, et al
2012; 13 (12): 1178–+
- **Decrease in circulating DNA, IL-10 and BAFF levels in newly-diagnosed SLE patients after corticosteroid and chloroquine treatment** *CELLULAR IMMUNOLOGY*
Cepika, A., Juresa, D., Vergles, J., Malenica, B., Santak, M., Kapitanovic, S., Mayer, M., Anic, B., Sentic, M., Gagro, A.
2012; 276 (1-2): 196–203
- **Monocyte Response to LPS after Exposure to Corticosteroids and Chloroquine with Implications for Systemic Lupus Erythematosus** *SCANDINAVIAN JOURNAL OF IMMUNOLOGY*
Cepika, A., Bendelja, K., Vergles, J. M., Malenica, B., Kapitanovic, S., Gagro, A.
2010; 72 (5): 434–43
- **Expression of chemokine receptor CX(3)CR1 in infants with respiratory syncytial virus bronchiolitis** *PEDIATRIC ALLERGY AND IMMUNOLOGY*
Cepika, A., Gagro, A., Bace, A., Tjesic-Drinkovic, D., Kelecic, J., Baricic-Voskresensky, T., Matic, M., Drazenovic, V., Marinic, I., Mlinaric-Galinovic, G., Tjesic-Drinkovic, D., Vrtar, Z., Rabatic, et al
2008; 19 (2): 148–56
- **The effect of chloroquine add-on therapy on TLR9 expression in systemic lupus erythematosus**
Cepika, A., Soldo-Juresa, D., Morovic-Vergles, J., Malenica, B., Gagro, A.
ACADEMIC PRESS INC ELSEVIER SCIENCE.2008: S93–S94
- **Effect of steroids on the frequency of regulatory T Cells and expression of FOXP3 in a patient with systemic lupus erythematosus: a two-year follow-up** *LUPUS*
Cepika, A., Marinic, I., Morovic-Vergles, J., Soldo-Juresa, D., Gagro, A.
2007; 16 (5): 374–77
- **Determination of intracellular protein expression** *Methods in Molecular Biology*
Cepika, A., Gagro, A.
Rudjer Boškovi# Institute.2007: 798–803
- **ELISPOT** *Methods in Molecular Biology*
Cepika, A., Gagro, A.
Rudjer Boškovi# Institute.2007: 696–702
- **Determination of cytokines by flow cytometry** *Methods in Molecular Biology*
Cepika, A., Gagro, A.
Rudjer Boškovi# Institute.2007: 694–696
- **Type I cytokine profiles of human naive and memory B lymphocytes: a potential for memory cells to impact polarization** *IMMUNOLOGY*
Gagro, A., Servis, D., Cepika, A. M., Toellner, K. M., Grafton, G., Taylor, D. R., Branica, S., Gordon, J.
2006; 118 (1): 66–77
- **The role of immune system in control of the influenza pandemic** *Infektološki glasnik*
Gagro, A., Cepika, A., Kosor, E., Marini#, I., Kuzman, I., Jeren, T., Draženovi#, V., Rakuši#, S., Mlinari#-Galinovi#, G.

