

BIOGRAPHICAL SKETCH

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Follow the sample format on preceding page for each person. **DO NOT EXCEED FOUR PAGES.**

NAME Bana Jabri <hr/> eRA COMMONS USERS NAME BJABRI	POSITION TITLE Professor		
EDUCATION/TRAINING <i>(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)</i>			
INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	YEAR(s)	FIELD OF STUDY
Universite Paris, VII	M.A.	1986	Biochemistry
Institut Pasteur, Paris	M.D.	1991	Pediatrics, Gastroenterology
Universite Paris, VII	Ph.D.	1996	Immunology

A. PERSONAL STATEMENT

My laboratory investigate the mechanisms of intestinal inflammatory disorders with a particular focus on mucosal and innate immunity. As the co-director of the Digestive Disease Research Center and pediatric Gastroenterologist at the University of Chicago I also have a strong interest in inflammatory intestinal disorders. We are especially interested in investigating the crosstalk between the tissue and the immune system, and the interplay between innate and adaptive immunity. In particular we have been studying the innate mechanisms underlying the development of regulatory T cell responses and protective immunity against pathogens. We have shown in collaboration with Dr. Schneewind that *Yersinia pestis* was targeting preferentially antigen-presenting cells and identified a region in the virulence factor LcrV responsible for IL-10 induction and immuno-suppression. Working on the mechanisms underlying IL-10 induction by *Yersinia pestis*, we identified TLR-6 as a unique Toll-like receptor inducing tolerogenic dendritic cells and IL-10 producing regulatory type-1 T cells in a JNK-dependent manner. Furthermore, we showed that in contrast TLR-1 induced proinflammatory dendritic cells in a p38-dependent manner. All these studies were done with Dr. DePaolo who obtained a K01 award as a primary investigator. We our now following up on these studies and determining the role of TLR-1 and TLR-6 in intestinal immune homeostasis and *Yersinia enterocolitica* infection in mouse and human. Our approaches combine cellular immunology and signal transduction, and involve multidisciplinary interactions with structure biologists and chemists.

B. POSITIONS AND HONORS

Professional Experience:

1985-1991	Residency, Assistance Publique Hôpitaux de Paris
1991-1994	Fogarty Visiting Fellow, Laboratory of Molecular Biology and Allergology National Institutes of Health, Bethesda, MD
1994-1998	Assistant Professor, <i>Clinical appointment:</i> Department of Pediatric Gastroenterology, Hôpital Necker, Paris <i>Research appointment:</i> National Institute of Health for Medical Research (France) (INSERM 429).
2/99-12/99	Staff Research, Princeton University
1/2000-8/2002	Research Scientist, Princeton University
8/2002-2005	Assistant Professor. The University of Chicago, Departments of Pathology. Medicine and Pediatrics. Committee on Immunology.
2005-2011	Associate Professor. The University of Chicago, Departments of Medicine, Pathology and Pediatrics. Committee on Immunology.
2005-present	Director of the Specialization in Immunology for Undergraduate Studies
2006-present	Co-Director of the University of Chicago Digestive Disease Research Core Center.
2011-present	Professor. The University of Chicago, Departments of Medicine, Pathology and Pediatrics. Committee on Immunology
2011-present	Director of Research for the University of Chicago Celiac Disease Center
2011-present	Vice Chair for Research for the Department of Medicine

Review Activities:

1994-1998	INSERM Gastroenterology/Nutrition study section INSERM Pediatric study section
2000	Ad-Hoc reviewer for the Celiac Program Project (NIH)
2000-2002	Ad-Hoc reviewer for the Crohn's and Colitis foundation
2005	NIH/NIAID Special Emphasis Panel on "HLA Region Genetics In Immune-Mediated Diseases"
2006-2009	CCFA review study section
2006	Ad-Hoc review for NIH/NIDDK Gastrointestinal Mucosal Pathobiology (GMPB) Study Section
2007	Ad-Hoc review for NIH/NIDDK Gastrointestinal Mucosal Pathobiology (GMPB) Study Section
2008-2012	Member of the NIH/NIDDK Gastrointestinal Mucosal Pathobiology (GMPB) Study Section

Awards:

2007	Member of the Henry Kunkel Society
2009	Leif B. Sorensen Faculty Research Award
2010	Wm. K Warren Jr. Prize in Celiac Disease
2011	Elected member of the American Association of Physician

C. SELECTED PEER-REVIEWED PUBLICATIONS (in chronological order).

- Cellier, C., Patey, N., Mauvieux, L., Jabri, B., Delabesse, E., Cervoni, J-P., Burtin, M-L., Guy-Grand, D., Bouhnik, Y., Modiglian, R., Barbier J-P., Macintyre, E., Brousse, N., Cerf-Bensussan, N. Abnormal intestinal intraepithelial lymphocytes in refractory sprue. *Gastroenterology*; 114: 471-481. 1998.
- Park, SH., Guy-Grand, D., Lemonnier, FA., Wang, CR, Bendelac, A., Jabri, B. Selection and expansion of CD8 $\alpha\alpha$ +TCR $\alpha\beta$ + intestinal intraepithelial lymphocytes in the absence of both classical MHC class I and non classical CD1 molecules. *J Exp Med*; 190:885-890. 1999.
- Jabri, B., Patey-Mariaud de Serre, N., Cellier, C., Gache, C., Carvalho, C., Mougnot, JF., Allez, M., Jian, R., Desreumaux, P., Colombel, JF., Matuchansky, C., Cugnenc, H., Lopez-Botet, M., Vivier, E., Moretta, A., Guy-Grand, D., Brousse, N., Schmitz, J., Cerf-Bensussan, N. Selective expansion of intraepithelial lymphocytes expressing the HLA-E specific NK receptor CD94 in Celiac Disease. *Gastroenterology*, 118:867-879. 2000.
- Roberts, Al., Lee, L., Schwarz, E., Groh, V., Spies, T., Ebert, CE., Jabri, B. Cutting Edge: NKG2D receptors induced by IL15 costimulate CD28-negative effector CTL in the tissue microenvironment. *J Immunol*, 167:5527-5530. 2001.
- Jabri, B., Selby, J., Negulescu, H., Lee, L., Roberts, A.I., Beavis, A., Lopez-Botet, M., Ebert, EC., Winchester, RJ. TCR specificity dictates CD94/NKG2A expression by human CTL. *Immunity*; 17:487-499. 2002.
- Green, HR, Jabri, B. Coeliac disease. *Lancet*, 362: 383-391. 2003.
- Meresse, B., Chen, Z, Ciszewski, C., Tretiakova, M., Bhagat, G., Krausz, T.N., Raulet, D.H., Lanier, L.L., Groh, V., Spies, T., Ebert, E.C., Green, P.H., Jabri, B. Coordinated induction by IL-15 of a TCR-independent, NKG2D signaling pathway converts CTLs into natural killer-like, lymphokine activated killer (LAK) cells in celiac disease. *Immunity*, 21:357-366. 2004.
- Meresse, B. Curran, S.A., Ciszewski, C., Orbelyan, G., Setty, M., Bhagat, G., Lee, L., Tretiakova, M., Semrad, C., Kistner, E., Winchester, R.J., Braud, V., Lanier, L.L., Geraghty, D., Green, P.H., Guandalini, S. and Jabri, B. Reprogramming of CTLs into natural killer-like cells in celiac disease. *Journal of Experimental Medicine*, 203:1345-55, 2006.
- Terrazzano, G., Sica, M., Gianfrani, C., Mazzarell, G., Maurano, F., De Giulio, B., de Saint-Mezard, S., Zanzi, D., Maiuri, L., Londei, M., Jabri, B., Troncone, R., Auricchio, S, Zappacosta, S., Carbone, E. Gliadin Regulates the NK-Dendritic Cell Cross-Talk by HLA-E Surface Stabilization. *J Immunol*. 179:372-81. 2007.
- Bhagat, G., Naiye, A.J., Shah, J.G., Harper, J., Jabri, B., Wang, T.C., Green, P.H., Manavalan, J.S. Small intestinal CD8+TCR $\gamma\delta$ +NKG2A+ intraepithelial lymphocytes have attributes of regulatory cells in patients with celiac disease. *J. Clin. Invest.*, 118:281-293, 2008.
- Hovhannisyan, Z., Angela Weiss, A., Martin, A., Wiesner, M., Tollefsen, S., Yoshida, K., Ciszewski, C., Curran, SA, Murray, JA, David, CS, Sollid, LM, Koning, F., Teyton, L., and Jabri, B. The role of HLA-DQ8 b57 polymorphism on the anti-gluten T cell response in celiac disease. *Nature*, 456: 534-538, 2008. PMID 19037317 PMCID in process

- Tang, F., Chen, Z., Ciszewski, C., Setty, M., Solus, J., Tretiakova, M., Ebert, E., Han, J., Lin, A., Guandalini, S., Groh, V., Spies, T., Green, P. and Jabri, B. Cytosolic PLA2 is required for CTL-mediated immunopathology of celiac disease via NKG2D and IL-15. *J Exp. Med.*, 206: 707-19. 2009. PMID 19237603 PMCID: PMC2699120
- Jabri, B., Solid, L.M. Tissue-mediated Control of Immunopathology in Celiac Disease. *Nat Rev Immunol* Dec 9:858-870, 2009. PMID: 19935805 PMCID in process
- DePaolo, R.W., Abadie V., Tang F., Fehlner-Peach H., Hall, J.A., Wang, W., Marietta, E.V., Kasarda, D.D. Waldmann, T.A., Murray, J.A., Semrad, C., Kupfer, S. Belkaid, Y., Guandalini, S., Jabri, B. Co-adjuvant effects of retinoic acid and IL-15 induce inflammatory immunity to dietary antigens. *Nature*, 471:220-224. 2011. PMID: 21307853, PMCID: PMC3076739.
- Round, J.L., Lee, S.M., Li, J., Tran, G., Jabri, B., Chatila, T.A., Mazmanian, S.K. The toll-like receptor 2 pathway establishes colonization by a commensal of the human microbiota. *Science*, 332:974-977, 2011. PMID:21512004, PMCID: PMC3164325.
- Sperandeo, M., Tosco, A., Izzo, V., Tucci, F., Troncone, R., Auricchio, r., Romanos, J., Trynka, G., Auricchio, S., Jabri, B., Greco, L. Potential Celiac Patients: a Model of Celiac Disease Pathogenesis. *PLoS ONE*, 23:732-738. 2011. PMID:21917438 PMCID in process.

D. RESEARCH SUPPORT

ACTIVE

- 1 R01 DK067180-01A2 (Jabri) 09/01/10-08/31/15
 NIH/NIDDK
 IEL and NKG2 Receptors in Celiac Disease
 The major goal of this proposal is to explore at the cellular and molecular level the interactions between the diseased celiac epithelium and IELs.
- 2 P30 DK42086 (E. Chang) 12/1/10-11/30/15
 NIH
 IBD and Mucosal Inflammation, Immunology and Microbiology of the GI Tract
 This is a multidisciplinary center project to facilitate digestive diseases related research at the University of Chicago.
 Role: Co-Investigator
- CCFA (Jabri) 07/01/10-06/30/13
 Ref #2831
 Role of epithelial Hsp70 and intestinal immune homeostasis and colitis
 To understand how regulatory T cell responses are induced in the intestine will provide important insights on the pathogenesis of IBD and provide new cues for the development of therapies promoting immune regulatory responses in the intestine that can block in a dominant manner inflammatory destructive responses.

COMPLETED

- 1 U54 AI057153-04 (O. Schneewind) 09/4/03-02/28/11
 NIH/NIAID Regional Center of Excellence
 The major goal of this proposal is the development of therapeutic, vaccine and diagnostic products in collaboration with industry, thereby protecting Americans against possible future bioterrorist attacks.
 Role: Co-Investigator
- 5 R01 DK058727-06 (Jabri) 09/1/01-06/30/06
 NIH/NIDDK
 Regulation of Human IELs by CD94 and HLA-E
 The major goals of this proposal are: 1) Expression and regulation of HLA-E and G on normal intestinal

epithelial cells, 2) Expression and regulation of CD94/NKG2 isotypes by normal T-IELs, 3) Functional properties of CD94/NKG2 receptors expressed by normal T-IELs.

2 R01 DK058727-07A1 (Jabri)

07/1/06 –06/30/11

NIH

Regulation of Human IELs by NKG2D and IL-15

The major goals of this proposal are: 1) to characterize NKG2D signaling for direct cytolysis. 2) to characterize NKG2D recycling and degradation, as surface NKG2D downregulation upon ligand engagement tightly controls NKG2D activation. 3) to dissect the molecular and biochemical basis for NKG2D regulation by IL-15 and Histone deacetylases (HDAC).