

## **Jody Lynn Baron, M.D., Ph.D.**

Assistant Professor of Medicine

### *Academic Office and Laboratory*

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### **Career Narrative**

We have now developed a novel transgenic mouse system that models the immune response that would occur in a natural primary Hepatitis B Virus infection. This model has allowed us to begin to address many of the unanswered questions relating to Hepatitis B Virus immunopathogenesis.

#### Acute Hepatitis:

- To identify the cytokines, and other molecules involved in the innate immune response to HBV in our transgenic mouse model
- To identify the ligand(s) recognized by the NKT cells in response to HBV (in the context of CD1d): viral product being presented vs presentation of self (e.g. glycolipid)
- To characterize the role of the innate immune response in the regulation of HBV replication
- To elucidate the mechanism of CD1d upregulation in the livers of HBV transgenic mice

#### Chronic Hepatitis:

- To identify the immunologic mechanisms involved in the pathogenesis of chronic hepatitis B infection, and how these immune mechanisms involved in chronic hepatitis B differ from mechanisms involved in successful viral clearance.
- To characterize the role of the innate immune response in the evolution of subsequent adaptive immunity.
- To identify cell types, and cytokines that lead to chronic hepatitis versus clearance by deletion experiments using knock out mice (e.g. interferon gamma KO, CD8 KO, etc.)
- To identify external interventions (e.g. immunization, cellular or cytokine therapy), which can be used to direct the innate and adaptive immune systems to resolve rather than cause disease.

### **Education**

- Rice University, Houston, Texas, B.A., 1986, Biology & Philosophy
- Yale University, M.D., 1993, Medicine
- Yale University, Ph.D., 1994, Immunobiology

### **Training**

- Stanford University, Residency, 1993-95, Internal Medicine
- University of California, San Francisco, Clinical Fellow, 1995-96, Infectious Diseases
- University of California, San Francisco, Fellowship, 1996-2000, Microbiol & Immunology

### **Certification**

- Internal Medicine, Microbiology and Immunology

## **Selected Publications**

- Hardardottir, Fridika.; **Baron, Jody L.**; and Janeway; Charles A., Jr., 1995. T Cells with Two Functional, Antigen-Specific Receptors. PNAS, 92 (2) :354-8.
- Cerwenka, Adelheid, **Jody L. Baron**, Lewis L. Lanier. 2001. Ectopic Expression of Retinoic Acid Early Inducible-1 gene (RAE-1) Permits NK Cell-mediated Rejection of a MHC Class I-bearing Tumor . Proceedings of the National Academy of Science, 98 (20): 11521-6.
- **Baron, Jody L.**; Gardiner, Leon,; Nishimura, Stephen; Locksley, Richard; and Ganem, Don. 2002. Activation of a non-classical NKT cell subset in a transgenic mouse model of hepatitis B virus infection. Immunity, Vol 16 (4): 583-594.
- Vilarinho, Silvia, Kouetsu Ogasawara, Lewis Lanier, Stephen Nishimura, and **Jody L. Baron**. 2007. Blockade of NKG2D on NKT cells prevents hepatitis and the acute immune response to Hepatitis B Virus. Proceedings of the National Academy of Science, 104 (46): 18187-92.
- Publicover J, Goodsell A, Nishimura S, Vilarinho S, Wang ZE, Avanesyan L, Spolski R, Leonard WJ, Cooper S, **Baron JL**. IL-21 is pivotal in determining age-dependent effectiveness of immune responses in a mouse model of human hepatitis B. J Clin Invest. 2011 Mar 1;121(3):1154-62.