Reply to Schroecksnadel, et al.

To the Editor—We thank Schroecksnadel and colleagues for their interest in our article on the immunobiology of indoleamine 2,3-dioxygenase (IDO) enzymes in intracellular infections. The human correlative data are indeed intriguing. We agree that IDO enzymes may be even more important in humans than in mice, and that defining this will demand direct in vivo studies in humans. In this light, it will be informative when causality can be demonstrated in human systems, which may well happen as IDO inhibitors reach the clinic. We note that such data would provide an experimental system that mimics the experiments we conducted in mice. That said, it is difficult to agree with the proposition that “some of the conclusions drawn can be questioned simply because IDO1 and IDO2 are not the only antimicrobial enzymes involved in the restriction of intracellular pathogen proliferation,” which is akin to saying that conclusions drawn from studies employing inhibition or deletion of interleukin 10 are questionable because of the existence of other cross-regulating immunoregulatory cytokines.

Senad Divanovic,1 Nancy M. Sawtell,2 Aurelien Trompette,1 Jamie I. Warning,1 Alexandra Dias,1 Andrea M. Cooper,3 George S. Yap,4 Moshe Arditi,5 Kenichi Shimada,6 James B. DuHadaway,6 George C. Prendergast,6 Randall J. Basaraba,7 Andrew L. Mellor,8 David H. Munn,8 Julio Aliberti,9 and Christopher L. Karp1

1Divisions of Molecular Immunology; 2Infectious Diseases, Cincinnati Children’s Hospital Research Foundation and the University of Cincinnati College of Medicine, Ohio; 3Trudeau Institute, Saranac Lake, New York; 4Center for Immunity and Inflammation, UMDNJ–New Jersey Medical School, Newark; 5Division of Pediatric Infectious Diseases and Immunology, Department of Pediatrics, UCLA School of Medicine, Cedars-Sinai Medical Center, Los Angeles, California; 6Lankenau Institute for Medical Research, Wynnewood, Pennsylvania and Kimmel Cancer Center, Thomas Jefferson University, Philadelphia; 7Department of Microbiology, Immunology and Pathology, Colorado State University, Fort Collins; and 8Immunotherapy Center and Departments of Pediatrics and Medicine, Medical College of Georgia, Augusta

Received and accepted 13 December 2011; electronically published 4 April 2012.
Correspondence: Christopher L. Karp, MD, Divisions of Molecular Immunology, CCHMC, 3333 Burnet Ave, Cincinnati, OH 45229-3039 (chris.karp@chmcc.org).

The Journal of Infectious Diseases 2012;205:1618
© The Author 2012. Published by Oxford University Press on behalf of the Infectious Diseases Society of America. All rights reserved. For Permissions, please e-mail: journals.permissions@oup.com. DOI: 10.1093/infdis/jis247