



Barbara Sherry



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Viral Infections in the Heart and the Host Interferon Response

Research emphasis:

Dr. Sherry's laboratory studies viral pathogenesis in a mouse model. In particular they investigate viral infections of the heart to identify the viral and host determinants of cardiac damage. They use a wide range of molecular, cellular, and genomic approaches in the mouse and in primary murine cell cultures to probe antiviral cell responses. They have found that the interferon- β response is an important determinant of protection against viral myocarditis, and thus another major focus for the laboratory is in defining components of the upstream and downstream interferon- β pathway that are cell type-specific.

Selected publications:

Rivera-Serrano, E.E., E.J Fritch, E.H Scholl, and B. Sherry. 2017. A cytoplasmic RNA virus alters the function of the cell splicing protein SRSF2. *Journal of Virology* 91(7): e02488-16.

Rivera-Serrano, E.E., and B. Sherry. 2017. NF- κ B activation is cell type-specific in the heart. *Virology* 502:133-143.

Stebbing, R.E., S.C. Irvin, E.E. Rivera-Serrano, K.W. Boehme, M. Ikizler, J.A. Yoder, T.S. Dermody, and B. Sherry. 2014. An ITAM in a Nonenveloped Virus Regulates Activation of NF- κ B, Induction of Beta Interferon, and Viral Spread. *Journal of Virology*, 88(5):2572-2583.

Irvin, S.C., J. Zurney, L.S. Ooms, J.D. Chappell, T.S. Dermody, and B Sherry. 2012. A Single Amino Acid Polymorphism in Reovirus Protein μ 2 Determines Repression of Interferon Signaling and Modulates Myocarditis. *Journal of Virology*, 86(4):2302-2311.

Application:

- Mouse models
- Primary cell cultures
- Viral infections
- Interferon responses

Collaboration potential:

- Mouse models including pregnant females and neonates
- Primary murine cardiac and skeletal muscle cell cultures
- Viral infections in cell culture and viral pathogenesis in the mouse
- Testing antivirals, investigating signal transduction pathways