

## Biosketch



### **Shi Liu, PhD**

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Studied Virology in Tongji Medical University, Wuhan, China. He received her Ph.D. in College of Life Sciences, Wuhan University, Wuhan, China in 2012. He visited and studied in the Institute of Virology, Essen, Germany from 2017-2018. Until now, he is a professor at College of Life Sciences, Wuhan University.

His research is focused on the molecular mechanisms of antiviral natural immune signaling, inflammatory cytokine-mediated inflammatory response and tumorigenesis. He also focused on the interactive regulation of glucose metabolism and inflammatory networks. His team uses gene cloning, yeast two-hybrid and proteomics to screen for proteins involved in the regulation of antiviral natural immunity and inflammatory response, and uses gene knockout, transgenic mice and animal disease models to study the functions and mechanisms of these proteins in the regulation of viral infections, autoimmune diseases and tumorigenesis.

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### **Selected Publications:**

1. Zhou L, He R, Fang P, Li M, Yu H, Zhu Y, **Liu S\***. Hepatitis B virus rigs the cellular metabolome to avoid innate immune recognition. *Nature Communications* 2021;12,98. <https://doi.org/10.1038/s41467-020-20316-8>.
2. Wang Q, Fang P, He R, Li M, Yu H, Zhou L, Yu Y, Wang F, **Liu S\***. O-GlcNAc Transferase Promotes Influenza A Virus-Induced Cytokine Storm by Targeting Interferon Regulatory Factor-5. *Science Advances* (封面论文) 2020;6:16, eaaz7086.
3. Yu H, Li M, He R, Fang P, Wang Q, Yu Y, Wang F, Zhou L, Zhang Y, Chen A, Peng N, **Liu S\***. Major Vault Protein Promotes Hepatocellular Carcinoma Through Targeting Interferon Regulatory Factor 2 and Decreasing p53 Activity. *Hepatology* 2019;72: 518-534.

4. **Liu S**, Peng N, Xie J, Hao Q, Zhang M, Zhang Y, Xia Z, et al. Human hepatitis B virus surface and e antigens inhibit major vault protein signaling in interferon induction pathways. *J Hepatol* 2015;62:1015-1023.

5. **Liu S**, Hao Q, Peng N, Yue X, Wang Y, Chen Y, Wu J, et al. Major vault protein: a virus-induced host factor against viral replication through the induction of type-I interferon. *Hepatology* 2012;56:57-66.

6. Fang P, Yu H, Li M, He R, Zhu Y, **Liu S\***. Rubicon: a facilitator of viral immune evasion. *Cell Mol Immunol* 2019;16:770-771.

7. Xu G, Xia Z, Deng F, Liu L, Wang Q, Yu Y, Wang F, Zhu C, Liu W, Cheng Z, **Liu S\***. Inducible LGALS3BP/90K activates antiviral innate immune responses by targeting TRAF6 and TRAF3 complex. *PLOS Pathog* 2019; doi.org/10.1371/journal.ppat.1008002.

8. Liu S#, Liu L#, Xu G, Cao Z, Wang Q, Li S, Peng N, et al. Epigenetic Modification Is Regulated by the Interaction of Influenza A Virus Nonstructural Protein 1 with the DNMT3B and Subsequent Transport to the Cytoplasm for K48-Linked Polyubiquitination. *J Virol* 2019;93.

9. Peng N, Yang X, Zhu C, Zhou L, Yu H, Li M, Lin Y, **Liu S\***. MicroRNA-302 Cluster Downregulates Enterovirus 71-Induced Innate Immune Response by Targeting KPNA2. *J Immunol* 2018;201:145-156.

10. Peng N#, **Liu S#**, Xia Z, Ren S, Feng J, Jing M, Gao X, et al. Inducible Major Vault Protein Plays a Pivotal Role in Double-Stranded RNA- or Virus-Induced Proinflammatory Response. *J Immunol* 2016;196:2753-2766.

11. Chen X, Zhou L, Peng N, Yu H, Li M, Cao Z, Lin Y, **Liu S\***. MicroRNA-302a suppresses influenza A virus-stimulated interferon regulatory factor-5 expression and cytokine storm induction. *J Biol Chem* 2017;292:21291-21303.

12. Jing M, Wang J, Zhu S, Ao F, Wang L, Han T, Yue X, **Liu S\***. Development of a more efficient hepatitis B virus vaccine by targeting hepatitis B virus preS to dendritic cells. *Vaccine* 2016;34:516-522.

13. Gui S, Chen X, Zhang M, Zhao F, Wan Y, Wang L, Xu G, **Liu S\***. Mir-302c mediates influenza A virus-induced IFN $\beta$  expression by targeting NF- $\kappa$ B inducing kinase. *FEBS Lett* 2015;589:4112-4118.

14. Zhu SL, Wang L, Cao ZY, Wang J, Jing MZ, Xia ZC, Ao F, **Liu S\***, Zhu Y\*. Inducible CYP4F12 enhances Hepatitis C virus infection via association with viral nonstructural protein 5B. *Biochem Biophys Res Commun* 2016;471:95-102.

## Research Group

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