

Selected Publications

1. [Jennifer Wolf, Chuan Xia, Caleb Studstill, Hanh Ngo, Steven Brody, Paul Anderson, Bumsuk Hahm[#]](#). 2021 Influenza A virus NS1 induces degradation of sphingosine 1-phosphate lyase to obstruct the host innate immune response. *Virology* 558, 67-75.
2. [Studstill, C.J., Pritzl, C.J., Seo, Y-J., Kim, D.Y., Xia, C., Wolf, J.J., Nistala, R., Vijayan, M., Cho, Y-B., Kang, K.W., Lee, S-M., and Bumsuk Hahm](#) 2020 Sphingosine kinase 2 restricts T cell immunopathology but permits viral persistence. *Journal of Clinical Investigation* 130(12):6523-6538.
3. [Chuan Xia, Jennifer J. Wolf, Chuankai Sun, Mengqiong Xu, Caleb J. Studstill, Jun Chen, Hanh Ngo, Hua Zhu, and Bumsuk Hahm](#) 2020 PARP1 enhances influenza A virus propagation by facilitating degradation of host type I interferon receptor. *Journal of Virology* 94(7). pii: e01572-19. doi: 10.1128/JVI.01572-19.
4. [Jennifer J. Wolf, Caleb J. Studstill, and Bumsuk Hahm](#) 2019 Emerging connections of S1P-metabolizing enzymes with host defense and immunity during virus infections. *Review Viruses* 11(12). pii: E1097. doi: 10.3390/v11121097.
5. [Chuan Xia*, Young-Jin Seo*, Caleb Studstill*, Madhuvanthi Vijayan, Jennifer Wolf, and Bumsuk Hahm](#) 2018 Transient inhibition of sphingosine kinases confers protection to influenza A virus infected mice. *Antiviral Research*. 158:171-177. *Co-first authors
6. [Chuan Xia, Paul Anderson, and Bumsuk Hahm](#) 2018 Viral dedication to vigorous destruction of interferon receptors. *Virology* 522:19-26.
7. [Feng-Ming Yang, Yong Zuo, Wei Zhou, Chuan Xia, Bumsuk Hahm, Mark Sullivan, Jinke Cheng, Hui-Ming Chang, and Edward T.H. Yeh](#). 2018 sNASP is an inhibitor of toll-like receptor signaling that regulates immune response in sepsis. *Journal of Clinical Investigation*. 128(6):2459-2472.
8. [Chuan Xia, Jennifer J. Wolf, Madhuvanthi Vijayan, Caleb J. Studstill, Wenjun Ma, and Bumsuk Hahm](#) 2018 Casein kinase 1 α mediates degradation of receptors for type I and type II interferons caused by hemagglutinin of influenza A virus. *Journal of Virology* 14;92(7).
9. [Madhuvanthi Vijayan, Chuan Xia, Yule Eum Song, Hanh Ngo, Caleb J. Studstill, Kelly Drews, Todd E. Fox, Marc C. Johnson, John Hiscott, Mark Kester, Stephen Alexander, and Bumsuk Hahm](#). 2017 Sphingosine 1-phosphate lyase enhances the activation of IKK ϵ to promote type I interferon-mediated innate immune response to influenza A virus infection. *J Immunol* July 2017, 199 (2) 677-687; [Epub ahead of print]
10. [Chuan Xia, Madhuvanthi Vijayan, Curtis J. Pritzl, Serge Y. Fuchs, Adrian B. McDermott, and Bumsuk Hahm](#). 2016. Hemagglutinin of influenza A virus antagonizes type I IFN responses by inducing degradation of type I IFN receptor 1. *Journal of Virology* 90:2403-2417.
11. [Michael P. Sherman, Curtis J. Pritzl, Chuan Xia, Mindy M. Miller, Habib Zaghouni, Bumsuk Hahm](#). 2015 Lactoferrin acts as an adjuvant during influenza vaccination of neonatal mice. *Biochemical and Biophysical Research Communications* 467:766-770.
12. [Curtis J. Pritzl, Young-Jin Seo, Chuan Xia, Madhuvanthi Vijayan, Zachary D. Stokes, and Bumsuk Hahm](#). 2015 A ceramide analogue stimulates dendritic cells to promote T cell responses upon virus infections. *Journal of Immunology* 194:4339-4349.

13. [Madhuvanthi Vijayan and Bumsuk Hahm](#) 2014 Influenza viral manipulation of sphingolipid metabolism and signaling to modulate host defense system Invited review Scientifica vol. 2014, Article ID 793815, doi:10.1155/2014/793815.
14. [Madhuvanthi Vijayan, Young-Jin Seo, Curtis J Pritzl, Sarah A Squires, Stephen Alexander, and Bumsuk Hahm](#). 2014. Sphingosine kinase 1 regulates measles virus replication. Virology 450-451. 55-63.
15. [Young-Jin Seo and Bumsuk Hahm](#). 2014. Sphingosine analog AAL-R promotes activation of LCMV-infected dendritic cells. Viral Immunology 27(2):82-6.
16. [Madhuvanthi Vijayan and Bumsuk Hahm](#). 2014. Influenza viral manipulation of sphingolipid metabolism and signaling to modulate host defense system Invited review Scientifica vol. 2014, Article ID 793815, doi:10.1155/2014/793815.
17. [Daniel J Howard, Young-Jin Seo, Bumsuk Hahm, and Jae W. Kwon](#). 2014. A Microfluidic Device with concave surfaced micropost array for rare cell capture. IEEE Sensors Journal, 14:5-6.
18. [Young-Jin Seo, Curtis J. Pritzl, Madhuvanthi Vijayan, Kavita Bomb, Mariah E. McClain, Stephen Alexander, and Bumsuk Hahm](#). 2013. Sphingosine kinase 1 serves as a pro-viral factor by regulating viral RNA synthesis and nuclear export of viral ribonucleoprotein complex upon influenza virus infection. PLoS One Volume 8/Issue 8/e75005.
19. [Young-Jin Seo, Curtis J. Pritzl, Madhuvanthi Vijayan, Celeste Blake, Mariah E. McClain, and Bumsuk Hahm](#). 2012. Sphingosine analog AAL-R increases dendritic cell responses upon TLR7 stimulation via p38 and type I IFN signaling. Journal of Immunology 188(10):4759-4768.
20. Curtis J. Pritzl, Young-Jin Seo, and Bumsuk Hahm. 2012 Chapter 2. Viruses strive to suppress host immune responses and prolong persistence. Book Title: Recent Advances in Immunology to Target Cancer, Inflammation and Infections, Dr. Jagat Kanwar (Ed.) InTech ISBN: 978-953-51-0592-3. 23-42.
21. [Cho JH, Kim HO, Webster K, Palendira M, Bumsuk Hahm, Kim KS, King C, Tangye S, and J. Sprent](#). 2011 Calcineurin-dependent negative regulation of CD94/NKG2A expression on naive CD8+ T cells. Blood 118(1):116-128.
22. [Young-Jin Seo, Stephen Alexander, and Bumsuk Hahm](#). 2011. Does cytokine signaling link sphingolipid metabolism to host defense and immunity against virus infections? Cytokine Growth Factor Rev. 22(1):55-61.
23. [Ward SV, George CX, Welch MJ, Liou LY, Bumsuk Hahm, Lewicki H, de la Torre JC, Samuel CE, and MB Oldstone](#). 2011. RNA editing enzyme adenosine deaminase is a restriction factor for controlling measles virus replication that also is required for embryogenesis. Proc Natl Acad Sci USA. 108(1):331-6.
24. [Young-Jin Seo and Bumsuk Hahm](#). 2010 Type I interferon modulates the battle of host immune system against viruses. Invited review. Adv Appl Microbiol. 73C: 83-101.
25. [Young-Jin Seo, Celeste Blake, Stephen Alexander, and Bumsuk Hahm](#). 2010. Sphingosine 1-phosphate-metabolizing enzymes control influenza virus propagation and viral cyto-pathogenicity. J. Virol. 84: 8124-8131. This publication was highlighted in the Target Intelligence Service (TIS), a database used by pharmaceutical companies worldwide to identify groundbreaking research on potential drug targets.
26. [David Marsolais*, Bumsuk Hahm*, Kevin B. Walsh*, Kurt H. Edelmann, Dorian McGavern, Yasuko Hatta, Yoshihiro Kawaoka, Hugh Rosen and Michael B. A. Oldstone](#). 2009. A critical role for the sphingosine analog AAL-R in dampening the cytokine response during influenza virus infection. Proc Natl Acad Sci USA. 106(5):1560-1565. *: Equal contribution.
27. [Bumsuk Hahm](#). Hostile communication of measles virus with host innate immunity and dendritic cells. Curr Top Microbiol Immunol. 2009. Chapter 13. 330: 271-287.

28. [David Marsolais*](#), [Bumsuk Hahm*](#), [Kurt H. Edelmann](#), [Kevin B. Walsh](#), [Miguel Guerrero](#), [Yasuko Hatta](#), [Yoshihiro Kawaoka](#), [Edward Roberts](#), [Michael B. A. Oldstone](#), and [Hugh Rosen](#). 2008. Local not systemic modulation of dendritic cell SIP receptors in lung blunts virus-specific immune responses to influenza. *Mol. Pharmacol.* 74: 896-903. *: Equal contribution.
29. Bumsuk Hahm and Michael B.A. Oldstone. 2009. Measles virus captures specific host machineries to cause immunosuppression and disease. In a book: *RNA Viruses: Host Gene Responses to Infection*. World Scientific. Chapter 12:269-292.
30. [Elina I. Zuniga](#), [Bumsuk Hahm](#), and [Michael B.A. Oldstone](#). 2007. Type I interferon during viral infections: multiple triggers for a multifunctional mediator. In a book: *Interferon: The 50th anniversary*. *Curr. Top. Microbiol. Immunol.* 316:337-357. Springer.
31. [Jae-Ho Cho](#), [Onur Boyman](#), [Hee-Ok Kim](#), [Bumsuk Hahm](#), [Mark P. Rubinstein](#), [Chris Ramsey](#), [David M. Kim](#), [Charles D. Surh](#), [Jonathan Sprent](#). 2007. Aug. An intense form of homeostatic proliferation of naïve CD8⁺ cells driven by IL-2. *J. Exp. Med.* 204(8): 1787-1801.
32. [Bumsuk Hahm](#), [Jae-Ho Cho](#), and [Michael B.A. Oldstone](#). 2007. Feb. Measles virus-dendritic cell interaction via SLAM inhibits innate immunity: Selective signaling through TLR4 but not other TLRs mediates suppression of IL-12 synthesis. *Virology* 358: 251-257.
33. [Matthew J. Trifilo*](#), [Bumsuk Hahm*](#), [Elina I. Zuniga](#), [Kurt H. Edelmann](#) and [Michael B.A. Oldstone](#). 2006. Dendritic Cell Inhibition: Memoirs from Immunosuppressive Viruses. *The Journal of Infectious Diseases*. 194. Suppl 1:S3-10. *: Equal contribution.
34. Elina I. Zuniga, Bumsuk Hahm, Kurt H. Edelman, and Michael, B.A. Oldstone. 2005. June 7, Immunosuppressive viruses and dendritic cells: a multi-front war. *ASM News*. 71:285-290.
35. [Chengyu Liang](#), [Elizabeth Rieder](#), [Bumsuk Hahm](#), [Sung K. Jang](#), [Aniko Paul](#), and [Eckard Wimmer](#). 2005 Mar 1. Replication of a Novel Subgenomic HCV Genotype 1a Replicon Expressing a Puromycin Resistance Gene in Huh-7 Cells. *Virology* 333(1): 41-53.
36. [Bumsuk Hahm](#), [Matthew J. Trifilo](#), [Elina I. Zuniga](#), and [Michael B. A. Oldstone](#). 2005 Feb. 23, Viruses evade the immune system through type I interferon-mediated STAT2-dependent but STAT1-independent signaling. *Immunity* 22(2): 247-257.
37. [Bumsuk Hahm](#), [Nathalie Arbour](#), and [Michael B. A. Oldstone](#). 2004 Jun 1. Measles virus interacts with human SLAM receptor on dendritic cells to cause immunosuppression. *Virology* 323(2):292-302.
38. [Bumsuk Hahm](#), [Nathalie Arbour](#), [Denise Naniche](#), [Dirk Homann](#), [Marianne Manchester](#), and [Michael B. A. Oldstone](#). 2003 Mar. Measles virus infects and suppresses proliferation of T lymphocytes from transgenic mice bearing human signaling lymphocytic activation molecule. *Journal of Virology* 77(6):3505-3515.
39. [Jong H. Kim](#), [Ki Y. Paek](#), [Kobong Choi](#), [Tae-D. Kim](#), [Bumsuk Hahm](#), [Kyong-T. Kim](#), and [Sung K. Jang](#). 2003 Jan. Heterogeneous Nuclear Ribonucleoprotein C Modulates Translation of c-myc mRNA in a Cell Cycle Phase-Dependent Manner. *Molecular and Cellular Biology* 23(2):708-720.
40. [Yoon K. Kim](#), [Bumsuk Hahm](#), and [Sung K. Jang](#). 2000 Nov. Polypyrimidine tract-binding protein (PTB) inhibits translation of bip mRNA. *Journal of Molecular Biology* 304(2):119-133.
41. [Sung H. Back](#), [Jung-E. Kim](#), [Jungmin Rho](#), [Bumsuk Hahm](#), [Tae G. Lee](#), [Eunice E. Kim](#), [Joong-M. Cho](#), and [Sung K. Jang](#). 2000 Nov. Expression and purification of an active, full-length hepatitis C viral NS4A. *Protein Expression and Purification* 20(2):196-206.
42. [Kyung M. Chung](#), [Juhang Lee](#), [Jung-E. Kim](#), [Ok-K. Song](#), [Sungchan Cho](#), [Jeongsim Lim](#), [Matthias Seedorf](#), [Bumsuk Hahm](#), and [Sung K. Jang](#). 2000 Jun. Nonstructural protein 5A of the hepatitis C virus inhibits the function of karyopherin β 3. *Journal of Virology* 74(11):5233-41.

43. [Jong H. Kim, Bumsuk Hahm, Yoon K. Kim, Mieyoung Choi, and Sung K. Jang.](#) 2000 May. Protein-Protein Interaction among hnRNPs Shuttling between Nucleus and Cytoplasm. *Journal of Molecular Biology* 298(3): 395-405.
44. [Bumsuk Hahm, Yoon K. Kim, Jong H. Kim, Tae Y. Kim, and Sung K. Jang.](#) 1998. HnRNP L interacts with the 3' border of internal ribosomal entry site of hepatitis C virus. *Journal of Virology* 72(11): 8782-8788.
45. [Bumsuk Hahm, Ook H. Cho, Jung-E. Kim, Yoon K. Kim, Jong H. Kim, Young L. Oh, and Sung K. Jang.](#) 1998. Polypyrimidine tract-binding protein interacts with hnRNP L. *FEBS letter* 425(3): 401-406.
46. [Bumsuk Hahm, Sung H. Back, Tae G. Lee, Eckard Wimmer, and Sung K. Jang.](#) 1996. Generation of a novel poliovirus with a requirement of hepatitis C virus NS3 protease activity. *Virology* 226(2):318-326.
47. [Bumsuk Hahm, Dae S. Han, Sung H. Back, Ok-K. Song, Myung-J. Cho, Chul-J. Kim, Kunitada Shimotohno, and Sung K. Jang.](#) 1995. NS3-4A of hepatitis C virus is a chymotrypsin-like protease. *Journal of Virology* 69(4): 2534-2539.

Patents

- Bumsuk Hahm, Young-Jin Seo, Stephen Alexander, and Madhuvanthi Vijayan “Modulation of sphingosine 1-phosphate-metabolizing enzymes for the treatment of negative strand RNA virus infections” Based on the Univ MO docket number 11UMC024, the non-provisional US Application (127185.0008-US; USSN 14/122,399) was filed on 11/26/2013.
- Sung K. Jang, and Bumsuk Hahm, “Hepatitis C Surrogate Virus for Testing the Activity of Hepatitis C Virus Protease, A Recombinant Gene and a use Thereof”, LG Chemicals Co., USA Patent No: US6395471; Issued May 28, 2002.
- Eckard Wimmer, Chengyu Liang, Sung K. Jang, and Bumsuk Hahm, “Efficient Hepatitis C virus replicon and its use in identifying antiviral compounds” The State Univ. of New York, USA Patent No. 6,689,559, Issued February 10, 2004.