

CURRICULUM VITAE

Clinton Jones, Ph.D., Sitlington Professor of Infectious Diseases & Regents Professor
Oklahoma State University
Center for Veterinary Health Sciences
Department of Veterinary Pathobiology
Email: clint.jones10@okstate.edu
Webpage: <https://ocrid.okstate.edu/node/269/#Education>
Phone: 405-744-1842

Educational Background:

Undergraduate Studies: Bethany College, Lindsborg Kansas. B.A., Biology (1978)

Graduate Studies: PhD, University of Kansas, Department of Microbiology (December 1984).
Dissertation Title: Characterization of the Nuclear Matrix Prepared from Cells Infected with Simian Virus 40.

Postdoctoral Project: (June 1984 - June 1987); Linus Pauling Institute of Science and Medicine, Palo Alto, CA. Involvement of Herpes Simplex Virus 2 (HSV-2) in Carcinogenesis.

Current Academic Appointments: Sitlington Professor of Infectious Diseases: Oklahoma State University, Center for Veterinary Health Sciences: May, July 30, 2015-Present

Previous Academic Appointments:

- Assistant Professor, Department of Microbiology, University of Mississippi Medical Center (Jackson, MS) May, 1987-October, 1989.
- University of Nebraska-Lincoln: October 1, 1989- July, 2015
- Associate Professor: October 1, 1989
- Tenure: July 1, 1993
- Professor: July 1, 1996
- Charles Bessey Professor: 2001-2015
- Associate Director for the Nebraska Center for Virology: 2000-2015

Honors and Awards

- Outstanding Researcher, Gamma Sigma Delta (Honor Society of Agriculture), 2010
- Outstanding Teacher at University of Nebraska, 2013
- Top 25 reviewer for Journal of Virology: 2016, 2017, 2018
- Zoetis Outstanding Researcher, 2018

Professional Memberships:

- American Society for Microbiology
- International Society of Neurovirology
- American Society for Virology
- American Association for the Advancement of Science

Review Committees

- Ad-hoc reviewer for USDA: 1991, 1992, 1994, 1995, 1997, 1999, 2000, 2001, 2002.
- Panel Member for USDA Competitive Grants Program: 1993, 1998, 2005, 2010, 2018.
- Panel Manager (USDA) National Research Initiative Competitive Grants Program (Program 44.0) Virology and Viral Immunology Study Section.
 - October 1995-September 1996
 - October 2000-September 2001
 - October 2003-September 2004
 - October 2006-September 2007
- Ad-Hock Reviewer for NIH (1994, 1998, 2001, 2004, 2007).
- Served on NIH NIAID (National Institutes of Allergy and Infectious Disease) study section to review program project grants: 2010-2013, 2017, 2018.
- Special Emphasis NIH grant review study sections: 2018 and 2019
- BARD grant reviewer for USDA, 2011-2013
- Journal of Neurovirology: Associate Editor, 2017-Present
- Editorial Board: Journal of Virology (2014- Present)
- Editorial Board: Virology (2011- Present)
- Editorial Board: World of Virology (2010-2017)
- Editorial Board: Virus Research (2014- Present)
- Editorial Board: Journal of Virology and Emerging Diseases (2015-2019)

Organizational Committees:

- Head of University of Nebraska Institutional Biosafety Committee (1995-2002).
- Head of Dept. Veterinary and Biomedical Sciences Graduate Committee (1997-2000).
- Member of Dept. Veterinary and Biomedical Sciences Graduate Committee (1990-1997, 2005-2010).
- Member of Promotion and Tenure Committee (1993-1997, 2001-2004, 2007-2010, 2011-2013).
- Task Force for Molecular Biology at UNL (1991-2015).
- I have served on approximately 30 supervisory committees for graduate students since 1989.
- Organizer for Veterinary Herpesvirus Workshop at the International Herpesvirus Workshop (1991-2018).
- Scientific Advisory committee for International Herpesvirus Workshop: 2009, 2012, 2013, 2016
- UNL: Postdoctoral Advisory Council (2012-2014).
- OSU CVHS Dean's Search, 2016-2017.
- CVHS Research Advisory Committee, OSU, 2017-Present.

Teaching Experience:

- Molecular Virology (Oklahoma State University), 2015-Present. This course is a graduate/ upper division undergraduate level course taught in the fall.

- Introduction to Molecular Virology and Viral Pathogenesis (UNL) 1990-2015. Introductory graduate level course that was taught in the fall of even numbered years.
- Medical Molecular Virology (UNL) 1991-2015. Advanced graduate level course that was taught in the fall of odd numbered years.
- Signal Transduction (UNL) 1993-2015. Advanced graduate level course that was taught in the spring of even numbered years.
- Medical Microbiology (University of Mississippi Medical Center) 1987-1989.
- Trained and graduated 21 PhD students and 3 MS students.
- Trained 13 postdoctoral fellows

Publications in Peer Reviewed Journals:

1. Jones, C. and Su, R.T. 1982. DNA polymerase alpha from the nuclear matrix of cells infected with SV40. *Nucleic Acids Res* 10:5517-5531.
2. Jones, C. and Su, R.T. 1985. Association of simian virus 40 phosphorylated T-antigen with sub-nuclear fractions of infected and transformed cells. *Exp Cell Res* 160:158-170.
3. Jariwalla, R.J., B. Tanczos, C. Jones, J. Ortiz, and S. Salimi-Lopez. 1986. DNA amplification and neoplastic transformation mediated by a herpes simplex virus fragment containing cell-related sequences. *Proc Natl Acad Sci USA* 83:1738-1742.
4. Jones, C., J. Ortiz, and R.J. Jariwalla. 1986. Localization and comparative nucleotide sequence analysis of the transforming domain in herpes simplex virus DNA containing repetitive genetic elements. *Proc Natl Acad Sci USA* 83:7855-7859.
5. Jones, C. and R.T. Su. 1987. The association of viral and plasmid DNA with the nuclear matrix during a productive infection. *Biochem Biophys Acta* 910:52-62.
6. Razzaque, A., N. Jahan, R. Jariwalla, C. Jones, and L.J. Rosenthal. 1988. Localization and sequence analysis of the transforming domain mtrII of human cytomegalovirus DNA. *Proc Natl Acad Sci USA* 85:5709-5713.
7. Jones, C. 1989. The minimal transforming fragment of HSV-2 mtrIII can function as a complex promoter element. *Virology* 169:346-353.
8. Jones, C., G. Delhon, A. Bratanich, and D. Rock. 1990. Analysis of the transcriptional promoter which regulates the latency related transcript of bovine herpesvirus 1. *J Virol* 64:1164-1170.
9. Razzaque, A., F. Zhu, and C. Jones. 1991. Functional analysis of human cytomegalovirus (MTRII). *Virology* 181:399-402.
10. Garrett, L., C. Jones, and M. Cuchens. 1992. Pristane induced gene activation. *Chem-Biol Interactions* 81:119-130.
11. Soong, L., C. Ackland-Berglund, C. Jones. 1992. The tumor promoter pristane activates transcription by a cAMP dependent mechanism. *Molec Cell Biochem* 110:75-81.
12. Dhanwada, K.R., V. Veerisetty, F. Zhu, A. Razzaque, K.D. Thompson, and C. Jones. 1992. Characterization of human fibroblasts transformed by HPV-16 and HSV-2. *J Gen Virol* 73:791-799.
13. Bratanich, A.C. and Jones, C. 1992. Localization of cis-acting sequences in the latency-related promoter of bovine herpesvirus 1 which are regulated by neuronal cell type factors and immediate-early genes. *J Virol* 66:6099-6106.
14. Bratanich, A.C., N. Hanson, and C. Jones. 1992. The latency related gene of bovine herpesvirus 1 inhibits the activity of immediate early transcription unit 1. *Virology* 191:988-991.

15. Jones, C., F. Zhu, and K. Dhanwada. 1993. An intergenic element of HSV-2 gene encoding the large subunit of ribonucleotide reductase can function as a distal activating element in human keratinocytes. *DNA Cell Biol* 12:127-137.
16. Garrett, L., C. Ackland-Berglund, C. Jones, and M. Cuchens. 1993. Differential effects of TPA and pristane on gene expression and transformation in mouse epidermal cells. *Exp Cell Res* 205:416-421.
17. Dhanwada, K.R., L. Garrett, P. Smith, K. D. Thompson, A. Doster, C. Jones. 1993. Characterization of human keratinocytes transformed by high risk human papillomavirus types 16 or 18 and herpes simplex virus type 2. *J Gen Virology* 9: 955-963.
18. Wang, J., C. Jones, M. Norcross, E. Bohnlein, and A. Razzaque. 1994. Identification and characterization of a human herpesvirus 6 gene segment capable of transactivating the HIV LTR in a Sp1 binding site dependent manner. *J Virol* 68:1706-1713.
19. Hanson, N. G. Henderson, and C. Jones. 1994. The herpes simplex virus 2 gene which encodes the large subunit of ribonucleotide reductase has unusual regulatory properties. *Virus Res* 34:265-280.
20. Banbura, M., C.E. Ackland, S.-H. Lee, D. Hamernik, and C. Jones. 1994. Analysis of transcriptional activation of a cAMP response element by 2,6,10,14 tetramethylpentadecane (Pristane) in JB6 mouse epidermal cells. *Molec Carcinogen* 11:204-214.
21. Huang, C., M. Dickman, G. Henderson, and C. Jones. 1995. The fungal toxin, fumonisin B1, represses protein kinase C in mammalian cells. *Cancer Res* 55:1655-1659.
22. Hossain, A., L. Schang, and C. Jones. 1995. Identification of gene products encoded by the latency related gene of bovine herpes virus type 1. *J Virol* 69:5345-5352.
23. Wang, H., C. Jones, J. Zanella, T. Holt, D. Gilchrist, M. Dickman. 1996. Fumonisin and *Alternaria alternata* lycopersici toxins: sphinganine analog mycotoxins induce apoptosis in monkey kidney cells. *Proc Natl Acad Sci* 93:3461-3465.
24. Schang, L., A. Hossain, C. Jones. 1996. The latency related gene of bovine herpes virus type 1 encodes a factor which inhibits cell cycle progression. *J Virol* 70:3807-3814.
25. Schang, L.M. and C. Jones. 1997. Analysis of bovine herpes virus 1 transcripts during a primary infection of trigeminal ganglia of cattle. *J Virol* 71:6786-6795.
26. Hossain, A., T. Holt, J. Ciacci-Zanella, and C. Jones. 1997. Analysis of cyclins and cyclin dependent kinases after an infection with herpes simplex virus. *J Gen Virol* 78:3341-3348.
27. Delhon, D., L. Schang, and C. Jones. 1997. Characterization of a novel transcriptional promoter in the latency related gene of bovine herpes virus 1 which is active during a latent infection. *Virus Res* 51:93-101.
28. Devireddy, L.R. and C. Jones. 1998. Alternative splicing of the latency related transcript of bovine herpes virus type 1 yields RNAs containing unique open reading frames. *J Virol* 72:7294-7301.
29. Jiang, Y., A. Hossain, M. T. Winkler, T. Holt, and C. Jones. 1998. Interaction between cyclin dependent kinases and the bovine herpes virus 1 latency related protein. *J Virol* 72:8133-8142.
30. Ciacci-Zanella, J.R., A.H. Merrill Jr., E. Wang, C. Jones. 1998. Characterization of cell cycle arrest by fumonisin B1 in CV-1 cells. *Food Chem Toxicol* 36:791-804.
31. Devireddy, L.R. and C. Jones. 1999. Activation of caspases and p53 by bovine herpesvirus 1 infection results in programmed cell death and efficient virus release. *J Virol* 73:3778-3788.

32. Zhange, Y., M.B. Dickman, C. Jones. 1999. The mycotoxin Fumonisin B₁ transcriptionally activates the p21 promoter through a cis-acting element containing two Sp1 binding sites. *J Biol Chem* 274:12367-12371.
33. Truesdell, G.M., C. Jones, T. Holt, G. Henderson, M.B. Dickman. 1999. Hyphal defects and mammalian tumors induced by Ras from a phytopathogenic fungus. *Molec Gen Genetics* 262: 46-54.
34. Ciacci-Zanella, J.R. and C. Jones. 1999. Fumonisin B₁, a Mycotoxin Contaminant of Cereal Grains, Induces Apoptosis Via The Tumor Necrosis Factor Pathway And Caspase Activation But Does Not Require p53. *Food Chem Toxicol*, 37:703-712.
35. Winkler, M.T.C., A. Doster, and C. Jones. 1999. Bovine herpesvirus-1 can infect CD4+ T lymphocytes and induce programmed cell death during acute infection of cattle. *J Virol* 73:8657-8568.
36. Ciacci-Zanella, J. M. Stone, G. Henderson, and C. Jones. 1999. The latency related gene of bovine herpesvirus 1 inhibits programmed cell death induced by C₆-ceramide or fumonisin B₁. *J Virol*, 73:9734-9740.
37. Devireddy, L. and C. Jones. 2000. Olf-1, a neuron-specific transcription factor, can activate the herpes simplex virus 1 ICP0 promoter. *J Biol Chem* 275:77-81.
38. Perng, G.-C., C. Jones, J. Ciacci-Zanella, M. Stone, G. Henderson, A. Yukht, S.M. Slanina, F.M. Hoffman, H. Ghiasi, A.B. Nesburn, S. Wechsler. 2000. Virus-induced neuronal apoptosis blocked by the herpes simplex virus latency-associated transcript (LAT). *Science* 287:1500-1503.
39. Winkler, M.T., A. Doster, and C. Jones. 2000. Persistence and reactivation of BHV-1 in tonsils of latently infected cattle. *J Virol* 74:5337-5346.
40. Jones, C., T.J. Newby, T. Holt, A. Doster, M. Stone, J. Ciacci-Zanella, C.J. Webster, and M. W. Jackwood. 2000. Analysis of latency in cattle after inoculation with a temperature sensitive mutant of bovine herpesvirus 1 (RLB106). *Vaccine* 18:3185-3195.
41. M. T. Winkler, Holt, T., A. Hossain, A. Doster, L. Schang, and C. Jones. 2000. Expression of cyclin D1, E, and A in trigeminal ganglionic neurons after infection with bovine herpes virus 1. *J Gen Virol* 81:2993-2998.
42. Hinkley, S., A.P.N. Ambagala, C. Jones, and S. Srikumaran. 2000. A vhs-like activity of bovine herpesvirus-1. *Arch Virol* 145:2027-2046.
43. Zhang, Y., C. Jones, and M.B. Dickman. 2001. Identification of differentially expressed genes following treatment of monkey kidney cells with the mycotoxin fumonisin B₁. *Food Chem Toxicol* 39:45-53.
44. Jones, C., J.R. Ciacci-Zanella, Y. Zhang, G. Henderson, and M. Dickman. 2001. Analysis of Fumonisin B₁ Induced Apoptosis. *Env Health Persp* 39:45-53.
45. Inman, M., Y. Zhange, V. Geiser, and C. Jones. 2001. The zinc ring finger of bovine herpes virus 1 encoded bICP0 is necessary for transcriptional regulation and infection. *J Gen Virol* 82:483-492.
46. Inman, M., G.-C. Perng, G. Henderson, A. B. Nesburn, and S. L. Wechsler, and C. Jones. 2001. Region of Herpes Simplex Virus Type 1 Latency-Associated Transcript Sufficient for Wild-Type Spontaneous Reactivation Promotes Cell Survival in Tissue Culture. *J Virol*. 75:3636-3646.
47. Inman, M., L. Lovato, A. Doster, and C. Jones. 2001. A mutation in the latency related gene of bovine herpesvirus 1 leads to impaired ocular shedding in acutely infected calves. *J Virol* 75:8507-8515.

48. Zhang, Y. and C. Jones. 2001. The bovine herpes virus 1 immediate early protein (bICP0) is associated with histone deacetylase 1 to activate transcription. 2001. *J Virol* 75:9571-9578.
49. Perng, G.-C., B. Maguen, L. Jing, K.R. Mott, N. Osorio, S.M. Slanina, A. Yukht, H. Ghiasi, A.B. Nesburn, M. Inman, G. Henderson, C. Jones, and S.L. Wechsler. 2002. A gene capable of blocking apoptosis can substitute for the herpes simplex virus type 1 LAT gene and restore wild type reactivation levels. *J Virol* 76:1224-1235.
50. Winkler, M.T.C., A. Doster, J-H. Sur, and C. Jones. 2002. Analysis of bovine trigeminal ganglia following infection with bovine herpesvirus 1. *Vet Microb*, 86:139-155.
51. Inman, M., L. Lovato, A. Doster, and C. Jones. 2002. A mutation in the latency related gene of bovine herpesvirus 1 disrupts the latency-reactivation cycle in calves. *J Virol* 76:6771-6779.
52. Perng, G.-C., B. Maguen, L. Jin, K.R. Mott, S.M. Slanina, A. Yukht, H. Ghiasi, N. Osorio, H.K. Hamdi, A.B. Nesburn, G. Henderson, M. Inman, C. Jones, and S.L. Wechsler. 2002. A novel herpes simplex virus type 1 (HSV-1) transcript (AL-RNA) antisense to the 5' end of LAT (latency) associated transcript produces a protein in infected rabbits. *J Virol* 76:8003-8010.
53. Henderson, G., W. Peng, L. Jin, G.-C. Perng, A.B. Nesburn, S.L. Wechsler, and C. Jones. 2002. Regulation of caspase 8-and caspase 9-induced apoptosis by the HSV-1 latency associated transcript. *J Neurovirol* 8 (suppl 2) 103-111.
54. Geiser, G., M. Inman, Y. Zhang, and C. Jones. 2002. The latency related (LR) gene of bovine herpes virus 1 (BHV-1) can inhibit the ability of bICP0 to activate productive infection. *J Gen Virol* 83: 2965 - 2971.
55. Lovato, L., M. Inman, G. Henderson, A. Doster., and C. Jones, C. 2003. Infection of cattle with a bovine herpesvirus 1 (BHV-1) strain that contains a mutation in the latency related gene leads to increased apoptosis in trigeminal ganglia during the transition from acute infection to latency. *J Virol* 77:4848-4857.
56. Geiser, V. and C. Jones. 2003. Stimulation of bovine herpesvirus 1 productive infection by the adenovirus E1A gene and the cellular transcription factor E2F4. *J Gen Virol* 84:929-938.
57. Jin, L., W. Peng, G-C Perng, A.B. Nesburn, C. Jones, and S.L. Wechsler. 2003. Identification of herpes simplex virus type 1 (HSV-1) latency associated transcript (LAT) sequences that both inhibit apoptosis and enhance the spontaneous reactivation phenotype. *J Virol* 77:6556-6561.
58. Mott, K., N. Osorio, L. Jin, D. Brick, J. Naito, J. Cooper, G. Henderson, M. Inman, C. Jones, S. L. Wechsler, and G.-C. Perng. 2003. The bovine herepsvirus-1 LR ORF-2 is crucial for this gene's ability to restore the high reactivation phenotype to an HSV-1 LAT null mutant. *J Gen Virol* 84:2975-2985.
59. Peng, W. G. Henderson, G.-C Perng, A.B. Nesburn, S.L. Wechsler, and C. Jones. 2003. The gene that encodes the herpes simplex virus type 1 (HSV-1) latency associated transcript (LAT) influences the accumulation of the transcripts (Bcl-x_L and Bcl-x_S), that encode apoptotic regulatory proteins. *J Virol* 77:10714-10718.
60. Devireddy, L., Y. Zhang, and C. Jones. 2003. Cloning and initial characterization of an alternatively spliced transcript encoded by the bovine herpes virus 1 latency related (LR) gene. *J Neurovirol* 9: 612-622.
61. Henderson, G., G.-C. Perng, A. B. Nesburn, S. L. Wechsler, and C. Jones. 2004. The latency related (LR) gene encoded by bovine herpesvirus 1 (BHV-1) can suppress caspase 3 and caspase 9 cleavage during productive infection. *J Neurovirol* 10:64-70.
62. Jiang, Y., M. Inman, Y. Zhang, N. A. Posadas , and C. Jones. 2004. A mutation in the latency related gene of bovine herpesvirus 1 (BHV-1) inhibits expression of proteins encoded by

ORF2 and Reading Frame C during productive infection. *J Virol* 78:3184-3189.

63. Inman, M., J. Zhou, H. Webb, and C. Jones. 2004. Identification of a novel transcript containing a small open reading frame that is expressed during latency, and is antisense to the latency related gene of bovine herpes virus 1 (BHV-1). *J Virol* 78:5438-5447.

64. Jin, L., GC Perng, DJ Brick, J Naito, AB Nesburn, C Jones, and SL Wechsler. 2004. Methods for detecting the HSV-1 LAT anti-apoptosis activity in Infected Tissue Culture cells. *J Virol Meth* 118:9-13.

65. Henderson, G., Y. Zhang, M. Inman, D. Jones and C. Jones. 2004. Infected cell protein 0 encoded by bovine herpesvirus 1 can activate caspase 3 when overexpressed in transfected cells. *J Gen Virol* 85: 3511-3516.

66. Peng, W., L. Jin, G. Henderson, G.C. Perng, D.J. Brick, A.B. Nesburn, S.J. Wechsler, and C. Jones. 2004. Mapping herpes simplex virus type 1 (HSV-1) LAT sequences that protect from apoptosis mediated by a plasmid expressing caspase-8. *J Neurovirol* 10:260-265.

67. Perez, S., M. Inman, A. Doster, and C. Jones. 2005. The latency related gene encoded by bovine herpesvirus 1 (BHV-1) promotes virus growth and reactivation from latency in tonsils of infected calves. *J Clin Micro.* 43: 393-401.

68. Zhang, Y. and C. Jones. 2005. Identification of functional domains within the bICP0 protein encoded by bovine herpesvirus 1 (BHV-1). *J Gen Virol* 86:879-886.

69. Barsam, C.A, DJ. Brick, C Jones, SL Wechsler, G-C Perng. 2005. A viral model for corneal scarring and neovascularization following ocular infection of rabbit with a herpes simplex virus type 1 (HSV-1) mutant. *Cornea* 24:460-466.

70. Peng, W., G. Henderson, M. Inman, L. BenMohamed, G.-C. Perng, S. L. Wechsler, and Clinton Jones. 2005. The locus encompassing the latency-associated transcript (LAT) of herpes simplex virus type 1 interferes with and delays interferon expression in productively infected neuroblastoma cells and trigeminal ganglia of acutely infected mice. *J Virol* 79:6162-6171.

71. Geiser, V., Y. Zhang, & C. Jones. 2005. Analysis of a bovine herpesvirus 1 (BHV-1) recombinant virus that does not express the bICP0 protein. *J Gen Virol* 86:1987-1996.

72. Henderson, G., Y. Zhang, and C. Jones. 2005. The bovine herpesvirus 1 (BHV-1) gene encoding infected cell protein 0 (bICP0) can inhibit interferon dependent transcription in the absence of other viral genes. *J G Virology* 86: 2697-2702.

73. Jin, L., G.-C. Perng, K.R. Mott, N. Osorio, J. Naito, D.J. Brick, D. Carpenter, C. Jones, and S.L. Wechsler. 2005. A herpes simplex virus type 1 mutant expressing a baculovirus inhibitor of apoptosis gene (cplAP) in place of LAT (Latency Associated Transcript) has a wild type reactivation phenotype in the mouse. *J Virol* 79:12286–12295.

74. Jones, C., M. Inman, W. Peng, G. Henderson, A. Doster, G.-C. Perng, and A. Kaenjak Angeletti. 2005. The herpes simplex virus type 1 (HSV-1) locus that encodes the latency-associated transcript (LAT) enhances the frequency of encephalitis in male Balb/C mice. *J Virol* 79:14465-14469.

75. Geiser, V. and C. Jones. 2005. Localization of sequences within the latency related gene of bovine herpesvirus 1 that inhibit mammalian cell growth. *J Neurovirol* 11:563-570.

76. Chan, D., J. Cohen, J. Naito, K.R. Mott, N. Osorio, L. Jin, N.W. Fraser, C. Jones, S.L. Wechsler, and G. Chuen Perng. 2006. A mutant deleted for most of the herpes simplex virus type 1 (HSV-1) UOL gene does not affect the spontaneous reactivation phenotype in rabbits. *J Neurovirol* 12:5-16.

77. Zhang, Y., Y. Jiang, J. Zhou, V. Geiser, & C. Jones. 2006. The bovine herpes virus 1 (BHV-

- 1) immediate early protein (bICP0) interacts with the histone acetyltransferase p300, and these interactions correlate with stimulation of gC promoter activity. *J Gen Virol* 87: 1843-1851.
78. Morishige, N., J.V. Jester, J. Naito, N. Osorio, A. Wahlert, C. Jones, R.D. Everett, S.L. Wechsler, and G. C. Perng. 2006. HSV-1 ICP0 localizes in the stromal layer of infected rabbit corneas and predominantly resides in the cytoplasm and/or perinuclear region of rabbit keratocytes. *J Gen Virol* 87:2817-2825.
79. Perez, S. L. Lovato, J. Zhou, A. Doster & C. Jones. 2006. Comparison of inflammatory infiltrates in trigeminal ganglia of cattle infected with wild type BHV-1 versus a virus strain containing a mutation in the LR (latency-related) gene. *J Neurovirol*, 12:392-397.
80. Meyer, F., S. Perez, V. Geiser, M. Sintek, M. Inman, & C. Jones. 2007. A protein encoded by the bovine herpes virus 1 (BHV-1) latency related gene interacts with specific cellular regulatory proteins, including the CCAAT enhancer binding protein alpha (C/EBP- α). *J Virol* 81:59-67.
81. Horiba, M., L.B. Martinez, J.L. Buescher, S. Sato, J. Limoges, J. Jiang, C. Jones, and T. Ikezu. 2007. OTK18, a zinc finger protein, regulates HIV LTR through two distinct regulatory regions. *J Gen Virol*, 88:236-241.
82. Saira, K. and C. Jones. 2007. The infected cell protein 0 encoded by bovine herpesvirus 1 (bICP0) induces degradation of interferon response factor 3 (IRF3), and consequently inhibits beta interferon promoter activity. *J Virology* 81:3077-3086.
83. Perez, S., F. Meyer, G. Henderson, Y. Jiang, S. Sherman, A. Doster, M. Inman, and C. Jones. 2007. A protein encoded by the bovine herpesvirus 1 ORF E gene induces neurite-like morphological changes in mouse neuroblastoma cells and is expressed in trigeminal ganglionic neurons. *J Neurovirol*, 13:139-149.
84. Jin, L., G.-C. Perng, D. Carpenter, K. R. Mott, N. Osorio, J. Naito, D.J. Brick, C. Jones, and S.L. Wechsler. 2007. Reactivation Phenotype in Rabbits of a Herpes Simplex Virus Type 1 (HSV-1) Mutant Containing an Unrelated Anti-Apoptosis Gene in Place of LAT. *J Neurovirol* 13: 78-84.
85. Xu, D., J. Zhang, T. Coleman, A. Fagot, C. Kotalik, L. Zhao, C. Jones, and L. Zhang. 2007. A regulatory loop between Kaposi's sarcoma-associated herpesvirus replication and transcription activator (RTA) and Epstein-Barr virus latent membrane protein 1 (LMP-1). *J Virology* 81:6068-6078.
86. Butchi, N.B., C. Jones, S.Perez, A.Doster, and S.I.Chowdhury. 2007. Envelope glycoprotein Us9 is required for the anterograde transport of Bovine herpesvirus-1 (BHV-1) from trigeminal ganglia to nose upon reactivation. *J Neurovirology*, 13:384-388.
87. Carpenter, D., C. Hsiang, L. Jin, N. Osorio, L. BenMohamed, C. Jones, and S.L. Wechsler. 2007. Stable cell lines expressing high levels of the herpes simplex virus type 1 LAT are refractory to caspase 3 activation and DNA laddering following cold shock induced apoptosis. *Virology*, 369:12-18.
88. Carpenter, D., G. Henderson, C. Hsiang, N. Osorio, L. BenMohamed, C. Jones, and S. L. Wechsler. 2007. Introducing point mutations into the ATGs of the putative open reading frames of the HSV-1 gene encoding the latency associated transcript (LAT) reduces its anti-apoptosis activity. *Microbial Pathogenesis*, 44:98-102.
89. Meyer, F., S. Perez, Y. Jiang, Y. Zhou, G. Henderson, and C. Jones. 2007. Identification of a novel protein encoded by the latency related (LR) gene of bovine herpesvirus 1 (BHV-1). *J Neurovirology*, 13:569-578.
90. Papugani, A., T. Coleman, C. Jones, and L. Zhang. 2008. The interaction between KSHV RTA and cellular RBP-Jk and their subsequent DNA binding are not sufficient for activation of RBP-Jk. *Virus*

Research, 131: 1-7.

91. Peng, W., O. Vitvitskaia, D. Carpenter, S.L. Wechsler, and C. Jones. 2008. Identification of two small RNAs within the first 1.5-kb of the herpes simplex virus type 1 (HSV-1) encoded latency-associated transcript (LAT). *J Neurovirology*, 14:41-52.
92. Perez, S., F. Meyer, K. Saira, A. Doster, and C. Jones. 2008. Premature expression of the latency-related (LR) RNA correlates with higher levels of beta-interferon RNA expression in productively infected cells. *J. Gen. Virology* 89: 1338 - 1345.
93. Geiser, V., S. Rose, and C. Jones. 2008. Bovine herpesvirus type 1 induces cell death by a cell type dependent fashion. *Microbial Pathogenesis* 44:459-466.
94. Liu, Z.F., M.C.S. Brum, A. Doster, C. Jones, and S.I. Chowdhury. 2008. A Bovine Herpesvirus Type 1 (BHV-1) Mutant Virus Specifying a Carboxyl Terminal Truncation of Glycoprotein E (gE) is Defective in Anterograde Neuronal Transport in Rabbits and Calves. *J. Virology*, 82:7432-7442.
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Book Chapters & Review Articles

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173. El-mayet, F.S., A.S. El-Habbaa, G.F. El-Bagoury, S.S.A. Sharawi, E.M. El-Nahas, and C. Jones. 2018. The Glucocorticoid Receptor and Certain KRÜPPEL-Like Transcription Factors have the Potential to Synergistically Stimulate Bovine Herpesvirus 1 Transcription and Reactivation from Latency. In *Transcriptional and Post-transcriptional Regulation*, 978-1-78923-792-4. <http://dx.doi.org/10.5772/intechopen.7545153>
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Active Grants:

1. **PI: Regulation of latency-reactivation cycle by ORF2 and beta-catenin/Wnt signaling pathway.** USDA, NIFA, Grant number: 2016-09370, 4/1/2017-03/31/2020 (**PI: Clinton Jones**). The goals of these studies are to: 1) identify the mechanism by which BHV-1 maintains latency following, 2) understand the role that the Wnt signaling pathway regulates the latency-reactivation cycle, and 3) define the role that ORF2 plays in maintaining a latent infection.
2. **PI: Regulation of beta-catenin in neurons during the HSV-1 latency-reactivation cycle. NIH R21.** PI: Clinton Jones. NIH, NINDS, Grant number: R21NS102290. 1/15/2018-12/30/2019. The focus of this grant is to test how HSV-1 regulates the Wnt signaling pathway in the peripheral nervous system.
3. **PI: USDA, NIFA, Regulation of bovine herpesvirus 1 (BoHV-1) reactivation from latency by progesterone and corticosteroids.** 6/1/2019-04/30/2023, PI (2 calendar months). The focus of this grant is to determine the effects of progesterone on viral gene expression and reactivation from latency in calves and rabbits. These studies are important because BoHV-1 is the most important abortogenic agent in the cattle industry.
4. **Consultant: Mechanism of the Antiviral Activity of BAF Against Poxvirus and HSV-1**

Infection. NIH/AI114653, 03/01/2015-02/28/2020, (PI: Matthew Wiebe). I am a consultant on this grant. My role in this grant is to provide expertise for examining the effects of BAF on HSV-1 productive infection.

5. **Co-I:** NIH, R21AI137750: **Regulation of cGAS-Mediated Cytosolic DNA Sensing Pathway.** 5/3/2018-4/30/2020, 0.6 calendar months. Cytosolic DNA induces interferon, which plays a major role in host defense against DNA viruses and autoimmune diseases, such as systemic lupus erythematosus. This grant will identify a new self-regulatory mechanism in DNA-mediated immunity. The discovery offers the potential to develop new therapeutics to prevent DNA virus infection and treatment of autoimmune diseases. PI: Dr. Shitao Li, Oklahoma State University, Center for Veterinary Health Sciences, Dept of Physiology.

6. PI: OSU CVHS Research Advisory Account. **Regulation of bovine herpesvirus 1 reactivation from latency and productive infection by progesterone and corticosteroids.** 11/01/2018-10/30/2019.

Previous Funded Grants:

1. NIH, National Cancer Institute. Mechanistic Approaches to HSV-2 Induced Transformation, 7/1/88- 6/30/93, \$450,000.
2. Nebraska Department of Health, Analysis of Tumor Promoter Induced Transcription, 7/90-7/92, \$70,000.
3. Center for Biotechnology, Analysis of Tumor Promoter Induced Transcription, 7/90- 7/92, \$30,000.
4. Center for Biotechnology, UNL. Equipment grant to purchase Phosphorimager. 7/1/93, \$50,000.
5. USDA (92-34103-7168). Is the latency related gene of BHV-1 necessary for a latent infection of cattle? 4/15/92-4/30/95, \$100,000.
6. USDA: National Research Initiative Competitive Grants Program (NRICGP) (92-03562). Regulation of Bovine Herpesvirus 1 Transcription during a Latent Infection. 10/1/92-9/30/94, \$100,000.
7. Center for Biotechnology, UNL. Molecular Analysis of the Tumor Promoter Pristane. 7/1/92-6/30/94, \$24,000.
8. Nebraska Department of Health, The role of HSV-2 as a cofactor in cervical cancer. 7/93 - 7/95, \$60,000.
9. Center for Biotechnology, UNL. Equipment grant to purchase Avanti centrifuge. 7/1/95, \$30,000.
10. USDA: NRICGP (94021117). Analysis of the Bovine Herpesvirus 1 Latency Related Gene. 10/1/94-9/30/97, \$219,627.
11. USDA: NRICGP (9502236). Analysis of BHV-1 gene expression during reactivation from latency. 10/95-9/98, \$167,620.
12. USDA: PI: Martin Dickman, co-PI: Clinton Jones. Molecular Mechanism of Fumonisin Induced Pathogenesis in Chickens. 9/1/96-8/30/98, \$120,000.
13. Pfizer, Analysis of latency by a thermosensitive vaccine strain of bovine herpesvirus 1 in cattle. \$120,000.
14. Elsa E. Pardee Foundation, Identification of genes that are regulated by Fumonisin B1, a carcinogen that is a contaminant of corn and other cereal grains. 12/99-12/00, \$60,000.

15. USDA: NRICGP (9702394). Analysis of Bovine Herpesvirus 1 Latency Related Gene. 9/97-9/2000, \$248,452.
16. USDA, National Research Initiative Competitive Grants Program (9802213). Analysis of Apoptosis and Pathogenesis by Bovine Herpesvirus 1 and bICP0. 10/1/1998-9/30/2001, \$319,600).
17. USDA, National Research Initiative Competitive Grants Program (2000-2003). Inhibition of apoptosis by the Bovine Herpesvirus 1 (BHV-1) Latency Related Gene Products. 10/1/2000-9/30/2003, \$292,000.
18. NIH supplement to purchase Biorad Image Analyzer, \$120,000, 2004.
19. USDA, National Research Initiative Competitive Grants Program. Functional analysis of bICP0, a BHV-1 gene that is a promiscuous trans-activator. 9/1/2002-8/30/2005, \$300,000.
20. Pfizer, Analysis of BHV-1 present in aborted fetuses, \$60,000. Recent outbreaks of BHV-1 occurred in certain breeding stock following vaccination. 10/01/04-9/30/05.
21. COBRE NIH grant, 2000-2005. Each year I received \$100,000 direct costs/year for my project from this grant. My project was entitled Functional analysis of alpha-herpesvirus latency associated transcripts. Essentially, this was a program project grant given to the Nebraska Center for Virology.
22. USDA, National Research Initiative Competitive Grants Program. Regulation of the latency-reactivation cycle by the Bovine Herpesvirus 1 (BHV-1) Latency Related Gene, 11/1/2003 to 10/30/2006, \$320,000. The mechanism by which the BHV-1 gene regulates latency and prevents programmed cell death (apoptosis) was examined.
23. Fort Dodge Animal Health, Stability of the LR mutant virus in cattle. \$65,000.
24. USDA, National Research Initiative Competitive Grants Program. Functional analysis of bICP0, a BHV-1 gene that is a promiscuous trans-activator. 9/1/52005-8/30/2008, \$350,000.
25. USDA, National Research Initiative Competitive Grants Program. Functional analysis of proteins encoded by the BHV-1 latency related gene. 9/15/06-9/14/09, \$374,585.
26. NIH (R21AI069176), Does the HSV-1 latency associated transcript (LAT) encode a protein? 7/5/07-7/4/10, \$401,500. The goals of this grant were to identify proteins encoded by LAT, and test whether these proteins inhibit apoptosis.
27. USDA, National Research Initiative Competitive Grants Program. Functional analysis of bICP0, a BHV-1 gene that stimulates productive infection. 9/1//2008-8/30/2011, \$375,000. The goals of this grant were to test whether bICP0 regulates chromatinization of the viral genome, identify protein domains in bICP0 that regulate interferon dependent transcription, and characterize a bICP0 zinc RING finger mutant.
28. USDA, NIFA, Analysis of viral factors that regulate the bovine herpesvirus 1 latency-reactivation cycle. 10/01/09-9/30/13, \$375,000. The goals of this grant are to test whether a protein encoded by the BHV-1 LR (latency related) gene controls the latency-reactivation cycle. Additional studies will identify and characterize a micro-RNA encoded within the LR gene.
29. Boehringer Ingelheim Vetmedica: 5/22/2012 5-22/21/2014: \$98,0000, Vaccine development.
30. Nebraska Research Initiative: 7/1/2012-6/31/2014: \$100,000, Dynamics of acquisition and transmission of poly-microbial respiratory disease that affect cattle: Bovine respiratory disease complex (BRDC).
31. Nebraska Center for Virology: 6/1/2012-12/30/2014: \$100,000, Regulation of HSV-1 infection by nucleic acid sensors.

32. Animal Health Formula Funds: Understanding the BHV-1 latency-reactivation cycle. 2011-2015, PI.
33. Multi-State Research Funds: Regulation of inflammasome formation by BHV-1. 2013-2015, PI.
34. Analysis of Bovine Herpesvirus 1 Stress Induced Reactivation from Latency. USDA, National Institute of Food and Agriculture (NIFA), Grant number: 2013-67015, 10/1/2013-09/30/2018.
35. Regulation of beta-catenin in neurons during the HSV-1 latency-reactivation cycle. OSU CVHS, 12/01/2017-10/30/2018.

INVITED PRESENTATIONS SINCE 2005

2019:

3/19/2019: Regulation of HSV-1 latency by the Wnt/ β -catenin signaling pathway. Nebraska Center for Virology Inter-Campus Annual Retreat, Nebraska City, NE.

2018:

3/18/2018: Regulation of bovine herpesvirus 1 reactivation from latency. Nebraska Center for Virology Inter Campus Annual Retreat, Nebraska City, NE.

5/16/2018: Analysis of viral gene expression during reactivation from latency. International Alpha-Herpesvirus Symposium, Vail, CO.

7/25/2018: Regulation of bovine herpesvirus 1 transcription by stress. International Herpesvirus Workshop.

12/01/2018: CRAWAD. The β -catenin signaling pathway promotes BoHV-1 latency.

2017:

3/17/2017: Regulation of neurotropic herpesvirus latency-reactivation cycle by viral and cellular factors. UC-Irvine, GAVIN HERBERT EYE INSTITUTE DISCOVERY CENTER FOR EYE RESEARCH, 4th Annual Bench to Bedside Research Symposium

3/19/2017: Regulation of the BHV-1 latency-reactivation cycle by beta-catenin, a transcription factor activated by canonical Wnt signaling. Nebraska Center for Virology Inter Campus Annual Retreat, Nebraska City, NE.

5/19/2017: *Regulation of BHV-1 latency-reactivation cycle by the canonical Wnt signaling & stress. Colorado alpha-herpesvirus latency symposium. Vail, CO.*

6/24/2017: Regulation of BHV-1 latency-reactivation cycle by cellular factors. Virginia Viral Pathogenesis Symposium, Eastern Virginia Medical School, Norfolk, VA.

7/29/2017: Regulation of the alpha-herpesvirus latency-reactivation cycle by cellular factors. European Society of Veterinary Virology. Ghent Belgium.

8/1/2017: A Wnt regulated protein kinase (Akt3) is differentially expressed during latency and is activated by a BoHV-1 protein expressed during latency (ORF2). International Herpesvirus Workshop. Ghent Belgium

12/1/2017: Regulation of bovine herpesvirus 1 latency-reactivation cycle by stress. USDA NIFA PD Workshop, Chicago IL.

2016

1/25/2016: Jones, C. Towards an understanding of the latency-reactivation cycle of Alphaherpesviruses. Departmental Seminar. University of Colorado Health Science Center, January 25, 2016.

3/20/2016. Jones, C. Regulation of β -catenin, a transcription factor activated by canonical Wnt signaling, by bovine herpesvirus 1. Nebraska Center for Virology Intercampus Meeting.

7/27/2016: Stress mediated trans-activation of the immediate early transcription unit 1 (IEtu1) promoter is enhanced by the transcriptional coactivator, host cell factor 1 (HCF-1). International Herpesvirus Workshop.

5/12/2016: The canonical Wnt/ β -catenin signaling pathway is active in in sensory neurons of calves latently infected with bovine herpesvirus 1. Colorado alpha-herpesvirus Latency Symposium.

2015

5/14/2015: Jones, C. Stress-mediated activation of viral gene expression during reactivation from latency. Colorado Alphaherpesvirinae latency Symposium.

2014

2/26/2014: Concerns about BHV-1 modified live vaccines: latency and abortions. Novartis continuing education meeting, Everglades City, FLA.

3/5/2014: IBR, bovine herpesvirus 1 (BHV-1), an important viral pathogen that causes significant economic losses. Academy of Veterinary Consultants, San Antonio, TX.

4/17/2014: Analysis of the latency-reactivation cycle of α -herpesvirinae, Penn State University, Department of Veterinary and Biomedical Sciences.

5/15/2014: Identification of factors that stimulate productive infection during stress-induced reactivation from latency. Colorado α -herpesvirus Symposium, Vail, CO.

10/30/2014: Regulation of the α -herpesvirus latency-reactivation cycle. Oklahoma State University, Center for Veterinary Health Sciences.

2013

2/13/2013: Regulation of latency by alpha-herpesvirus gene products. LSU Vet School.

3/25/2013: Understanding the latency-reactivation cycle of alpha-herpesviruses. Washington State University, School of Veterinary Medicine.

4/18/25: Bovine herpesvirus 1 (BHV-1) modified live vaccines are pathogenic and can cause abortions. Novartis Vaccine symposium, San Diego, CA.

5/15/2013: Expression of viral proteins in sensory neurons during reactivation from latency. Colorado alpha-herpesvirus Symposium, Vail, CO.

8/16/2013: BHV-1 and their modified live vaccines are a nuisance to the cattle industry. Novartis Symposium of Excellence, Seattle, WA.

11/01/2013: Analysis of factors that regulate stress-induced reactivation from latency. Nebraska Center for Virology.

2012

1/20/2012: Analysis of the role that bovine herpesvirus 1 plays in pathogenesis of cattle. Pfizer Animal Health.

2/7/2012: Analysis of the factors that control the latency-reactivation cycle of alpha-herpesvirinae subfamily members. Oregon State University, School of Veterinary Medicine, Department of Biomedical Sciences.

2/16/2012: Development of a novel BHV-1 modified live vaccine that will not reactivate from latency. Boehringer Ingelheim Animal Health.

4/25/2012: Understanding how BHV-1 could cause reproductive problems in cattle after vaccination. Novartis Animal Health.

7/30/2012: Small non-coding RNAs encoded within the herpes simplex virus type 1 latency associated transcript (LAT) induce beta-interferon promoter activity and promote cell survival in a retinoic acid inducible gene I (RIG-I) dependent manner. International Herpesvirus Workshop, Calgary, CA.

10/12/2012: Understanding the latency-reactivation cycle of alpha-herpesvirinae subfamily members. Mississippi State University.

2011

4/01/2011: Towards an understanding of the role that bovine herpesvirus 1 (BHV-1) plays in bovine respiratory disease. South Dakota State University, Dept of Veterinary and Biomedical Sciences.

4/20/2011: Functional analysis of bICP0, a BHV-1 gene that stimulates productive infection. USDA NIFA (National Institute of Food Agriculture) annual meeting.

5/12/2011: Identification of cellular factors that are induced during the early stages of reactivation from latency. Colorado alpha-herpesvirus latency symposium, Vail, CO.

10/26/2011: Alpha-herpesvirus latency. XXII National Virology Meeting. Atibaia, Sao Paulo, Brazil.

2010

3/18/2010: Analysis of alpha-herpesvirus latency in vivo. University of Florida School of Veterinary Medicine.

7/22/2010: Identification of cellular genes that are induced during the early stages of reactivation from latency. International Herpesvirus Workshop.

08/30/2010: Towards an understanding of the early phases of reactivation from latency. UNL, School of Veterinary Medicine and Biomedical Sciences.

2009

03/10/2009: Analysis of alpha-herpesvirus genes expressed during latency. University of Georgia, Dept of Infectious Diseases.

04/10/2009: Towards an understanding of alpha-herpesvirus latency. Emory School of Medicine, Department of Microbiology and Molecular Genetics.

12/08/2009: Towards an understanding of the latency-reactivation cycle of BHV-1. American Association of Veterinary Pathologists. Symposium on persistent/latent viruses. Monterrey, CA.

2008

07/26/2008: Analysis of a novel transcript expressed in HSV-1 latently infected mice. International Herpesvirus Workshop.

01/15/2008: Analysis of alpha-herpesvirus genes expressed during latency. Oklahoma State University, Department of Microbiology and Molecular Genetics.

2007

10/31/2007: Regulation of neuronal death by alpha-herpes virus genes expressed during latency. University of Nebraska Dental School.

11/12/2007: Analysis of herpesvirus genes expressed during latency: regulation of neuronal cell death. University of Edmonton, Canada.

07/25/2007: The BHV-1 bICP0 protein inhibits innate immune responses by degrading IRF3. International Herpesvirus Workshop.

2006

06/10/2006: Regulation of the latency-reactivation cycle by viral genes. Texas A/M School of Veterinary Medicine, Dept. of Pathobiology.

05/15/2006: Regulation of the latency-reactivation cycle of alpha-herpesviruses. University of Illinois, School of Veterinary Medicine, Department of Pathobiology.

2005

10/24/2005: Analysis of genes expressed during latency of alpha-herpesvirus latency, Kansas State University, Department of Pathobiology and Clinical Microbiology.

10/01/2005: Analysis of alpha-herpesvirus genes that regulate the latency-reactivation cycle. Iowa State Veterinary School, Department of Veterinary Microbiology.

09/26/2005: Analysis of Alpha-herpesvirus Genes that are Expressed during Latency. Early Events during Virus Infection, Cold Spring Harbor, New York.

03/10/2005: Analysis of bovine herpesvirus 1 genes that are expressed in sensory neurons of latently infected calves. European Society of Veterinary Virology, International symposium of Veterinary Virology. Zurich, Switzerland.

Major Invited talks prior to 2005

06/2002: The latent transcript of HSV-1 encodes an anti-apoptosis function. Plenary Lecture at the International Society of Neurovirology. Dusseldorf, Germany

07/2001: Analysis of α -herpesvirus latency. Symposium Lecture at the American Society for Virology. Madison WI.

04/2001: Analysis of BHV-1 latency and pathogenesis (2001 and 2005). Symposium Lecture at the European Society of Veterinary Virology Symposium. Ghent, Belgium.

07/1997: Regulation of the latency-reactivation cycle of alpha-herpesvirinae sub-family members. State of the Art Lecture at the American Society of Virology. Bozeman, Montana.

08/1996: Functional analysis of a protein encoded by the BHV-1 latency related gene. Symposium Lecture at the International Herpesvirus Workshop. Chicago, IL