

COMPLETE LIST OF PUBLICATIONS STEFAN KUNZ INSTITUTE OF MICROBIOLOGY UNIL/CHUV**Original articles published in peer-reviewed journals**

1. Buchstaller A, **Kunz S**, Berger P, Kunz B, Ziegler U, Rader C, Sonderegger P. 1996. Cell adhesion molecules NgCAM and axonin-1 form heterodimers in the neuronal membrane and cooperate in neurite outgrowth promotion. *J Cell Biol* 135: 1593-1607.
2. **Kunz S**, Ziegler U, Kunz B, Sonderegger P. 1996. Intracellular signaling is changed after clustering of the neural cell adhesion molecules axonin-1 and NgCAM during neurite fasciculation. *J Cell Biol* 135: 253-267.
3. **Kunz S**, Spirig M, Ginsburg C, Buchstaller A, Berger P, Lanz R, Rader C, Vogt L, Kunz B, Sonderegger P. 1998. Neurite fasciculation mediated by complexes of axonin-1 and Ng cell adhesion molecule. *J Cell Biol* 143: 1673-1690.
4. Fitzli D, Stoeckli ET, **Kunz S**, Siribour K, Rader C, Kunz B, Kozlov SV, Buchstaller A, Lane RP, Suter DM, Dreyer WJ, Sonderegger P. 2000. A direct interaction of axonin-1 with NgCAM-related cell adhesion molecule (NrCAM) results in guidance, but not growth of commissural axons. *J Cell Biol* 149: 951-968.
5. Sevilla N, **Kunz S**, Holz A, Lewicki H, Homann D, Yamada H, Campbell KP, de La Torre JC, Oldstone MB. 2000. Immunosuppression and resultant viral persistence by specific viral targeting of dendritic cells. *J Exp Med* 192: 1249-1260.
6. **Kunz S**, Sevilla N, McGavern DB, Campbell KP, Oldstone MB. 2001. Molecular analysis of the interaction of LCMV with its cellular receptor [alpha]-dystroglycan. *J Cell Biol* 155: 301-310.
7. Smelt SC, Borrow P, **Kunz S**, Cao W, Tishon A, Lewicki H, Campbell KP, Oldstone MB. 2001. Differences in affinity of binding of lymphocytic choriomeningitis virus strains to the cellular receptor alpha-dystroglycan correlate with viral tropism and disease kinetics. *Journal of virology* 75: 448-457.
8. Spiropoulou CF, **Kunz S**, Rollin PE, Campbell KP, Oldstone MB. 2002. New World arenavirus clade C, but not clade A and B viruses, utilizes alpha-dystroglycan as its major receptor. *Journal of virology* 76: 5140-5146.
9. **Kunz S**, Campbell KP, Oldstone MB. 2003. Alpha-dystroglycan can mediate arenavirus infection in the absence of beta-dystroglycan. *Virology* 316: 213-220.
10. **Kunz S**, Edelmann KH, de la Torre JC, Gorney R, Oldstone MB. 2003. Mechanisms for lymphocytic choriomeningitis virus glycoprotein cleavage, transport, and incorporation into virions. *Virology* 314: 168-178.
11. Rambukkana A, **Kunz S**, Min J, Campbell KP, Oldstone MB. 2003. Targeting Schwann cells by nonlytic arenaviral infection selectively inhibits myelination. *Proc Natl Acad Sci U S A* 100: 16071-16076.
12. Sampo B, Kaech S, **Kunz S**, Bunker G. 2003. Two distinct mechanisms target membrane proteins to the axonal surface. *Neuron* 37: 611-624.
13. Kanagawa M, Saito F, **Kunz S**, Yoshida-Moriguchi T, Barresi R, Kobayashi YM, Muschler J, Dumanski JP, Michele DE, Oldstone MB, Campbell KP. 2004. Molecular recognition by LARGE is essential for expression of functional dystroglycan. *Cell* 117: 953-964.
14. **Kunz S**, Calder L, Oldstone MB. 2004. Electron microscopy of an alpha-dystroglycan fragment containing receptor sites for lymphocytic choriomeningitis virus and laminin, and use of the receptoid body as a reagent to neutralize virus. *Virology* 325: 207-215.
15. **Kunz S**, Sevilla N, Rojek JM, Oldstone MB. 2004. Use of alternative receptors different than alpha-dystroglycan by selected isolates of lymphocytic choriomeningitis virus. *Virology* 325: 432-445.
16. Sevilla N, McGavern DB, Teng C, **Kunz S**, Oldstone MB. 2004. Viral targeting of hematopoietic progenitors and inhibition of DC maturation as a dual strategy for immune subversion. *J Clin Invest* 113: 737-745.
17. **Kunz S**, Rojek JM, Kanagawa M, Spiropoulou CF, Barresi R, Campbell KP, Oldstone MB. 2005. Posttranslational modification of alpha-dystroglycan, the cellular receptor for arenaviruses, by the glycosyltransferase LARGE is critical for virus binding. *Journal of virology* 79: 14282-14296.

18. **Kunz S**, Rojek JM, Perez M, Spiropoulou CF, Oldstone MB. 2005. Characterization of the interaction of lassa fever virus with its cellular receptor alpha-dystroglycan. *Journal of virology* 79:5979-5987.
19. **Kunz S**, Rojek JM, Roberts AJ, McGavern DB, Oldstone MB, de la Torre JC. 2006. Altered central nervous system gene expression caused by congenitally acquired persistent infection with lymphocytic choriomeningitis virus. *Journal of virology* 80:9082-9092.
20. Rojek JM, Spiropoulou CF, **Kunz S**. 2006. Characterization of the cellular receptors for the South American hemorrhagic fever viruses Junin, Guanarito, and Machupo. *Virology* 349:476-491.
21. Capul AA, Perez M, Burke E, **Kunz S**, Buchmeier MJ, de la Torre JC. 2007. Arenavirus Z-glycoprotein association requires Z myristylation but not functional RING or late domains. *Journal of virology* 81:9451-9460.
22. Georgel P, Jiang Z, **Kunz S**, Janssen E, Mols J, Hoebe K, Bahram S, Oldstone MB, Beutler B. 2007. Vesicular stomatitis virus glycoprotein G activates a specific antiviral Toll-like receptor 4-dependent pathway. *Virology* 362:304-313.
23. Rojek JM, Campbell KP, Oldstone MB, **Kunz S**. 2007. Old World arenavirus infection interferes with the expression of functional alpha-dystroglycan in the host cell. *Mol Biol Cell* 18:4493-4507.
24. Rojek JM, Spiropoulou CF, Campbell KP, **Kunz S**. 2007. Old World and clade C New World arenaviruses mimic the molecular mechanism of receptor recognition used by alpha-dystroglycan's host-derived ligands. *Journal of virology* 81:5685-5695.
25. Lee AM, Rojek JM, Gundersen A, Stroher U, Juteau JM, Vaillant A, **Kunz S**. 2008. Inhibition of cellular entry of lymphocytic choriomeningitis virus by amphipathic DNA polymers. *Virology* 372:107-117.
26. Lee AM, Rojek JM, Spiropoulou CF, Gundersen AT, Jin W, Shaginian A, York J, Nunberg JH, Boger DL, Oldstone MB, **Kunz S**. 2008. Unique small molecule entry inhibitors of hemorrhagic fever arenaviruses. *The Journal of biological chemistry* 283:18734-18742.
27. Rojek JM, Lee AM, Nguyen N, Spiropoulou CF, **Kunz S**. 2008. Site 1 protease is required for proteolytic processing of the glycoproteins of the South American hemorrhagic fever viruses Junin, Machupo, and Guanarito. *Journal of virology* 82:6045-6051.
28. Rojek JM, Perez M, **Kunz S**. 2008. Cellular entry of lymphocytic choriomeningitis virus. *Journal of virology* 82:1505-1517.
29. Rojek JM, Sanchez AB, Nguyen NT, de la Torre JC, **Kunz S**. 2008. Different mechanisms of cell entry by human-pathogenic Old World and New World arenaviruses. *Journal of virology* 82:7677-7687.
30. Han R, Kanagawa M, Yoshida-Moriguchi T, Rader EP, Ng RA, Michele DE, Muirhead DE, **Kunz S**, Moore SA, Iannaccone ST, Miyake K, McNeil PL, Mayer U, Oldstone MB, Faulkner JA, Campbell KP. 2009. Basal lamina strengthens cell membrane integrity via the laminin G domain-binding motif of alpha-dystroglycan. *Proc Natl Acad Sci U S A* 106:12573-12579.
31. Whitby LR, Lee AM, **Kunz S**, Oldstone MB, Boger DL. 2009. Characterization of lassa virus cell entry inhibitors: determination of the active enantiomer by asymmetric synthesis. *Bioorg Med Chem Lett* 19:3771-3774.
32. Liou LY, Walsh KB, Vartanian AR, Beltran-Valero de Bernabe D, Welch M, Campbell KP, Oldstone MB, **Kunz S**. 2010. Functional glycosylation of dystroglycan is crucial for thymocyte development in the mouse. *PloS one* 5:e9915.
33. Rojek JM, Pasqual G, Sanchez AB, Nguyen NT, de la Torre JC, **Kunz S**. 2010. Targeting the proteolytic processing of the viral glycoprotein precursor is a promising novel antiviral strategy against arenaviruses. *Journal of virology* 84:573-584.
34. Yoshida-Moriguchi T, Yu L, Stalnaker SH, Davis S, **Kunz S**, Madson M, Oldstone MB, Schachter H, Wells L, Campbell KP. 2010. O-mannosyl phosphorylation of alpha-dystroglycan is required for laminin binding. *Science* 327:88-92.

35. Cordey S, Sahli R, Moraz ML, Estrade C, Morandi L, Cherpillod P, Charrel RN, **Kunz S**, Kaiser L. 2011. Analytical validation of a lymphocytic choriomeningitis virus real-time RT-PCR assay. *J Virol Methods* 177:118-122.
36. Dylla DE, Xie L, Michele DE, **Kunz S**, McCray PB, Jr. 2011. Altering alpha-dystroglycan receptor affinity of LCMV pseudotyped lentivirus yields unique cell and tissue tropism. *Genet Vaccines Ther* 9:8.
37. Hara Y, Balci-Hayta B, Yoshida-Moriguchi T, Kanagawa M, Beltran-Valero de Bernabe D, Gundesli H, Willer T, Satz JS, Crawford RW, Burden SJ, **Kunz S**, Oldstone MB, Accardi A, Talim B, Muntoni F, Topaloglu H, Dincer P, Campbell KP. 2011. A dystroglycan mutation associated with limb-girdle muscular dystrophy. *N Engl J Med* 364: 939-946.
38. Hara Y, Kanagawa M, **Kunz S**, Yoshida-Moriguchi T, Satz JS, Kobayashi YM, Zhu Z, Burden SJ, Oldstone MB, Campbell KP. 2011. Like-acetylglucosaminyltransferase (LARGE)-dependent modification of dystroglycan at Thr-317/319 is required for laminin binding and arenavirus infection. *Proc Natl Acad Sci U S A* 108:17426-17431.
39. Pasqual G, Burri DJ, Pasquato A, de la Torre JC, **Kunz S**. 2011. Role of the host cell's unfolded protein response in arenavirus infection. *Journal of virology* 85:1662-1670.
40. Pasqual G, Rojek JM, Masin M, Chatton JY, **Kunz S**. 2011. Old world arenaviruses enter the host cell via the multivesicular body and depend on the endosomal sorting complex required for transport. *PLoS Pathog* 7:e1002232.
41. Pasquato A, Burri DJ, Traba EG, Hanna-El-Daher L, Seidah NG, **Kunz S**. 2011. Arenavirus envelope glycoproteins mimic autoprocessing sites of the cellular proprotein convertase subtilisin kexin isozyme-1/site-1 protease. *Virology* 417:18-26.
42. Popkin DL, Teijaro JR, Sullivan BM, Urata S, Rutschmann S, de la Torre JC, **Kunz S**, Beutler B, Oldstone M. 2011. Hypomorphic mutation in the site-1 protease Mbtps1 endows resistance to persistent viral infection in a cell-specific manner. *Cell Host Microbe* 9:212-222.
43. Urata S, Yun N, Pasquato A, Paessler S, **Kunz S**, de la Torre JC. 2011. Antiviral activity of a small-molecule inhibitor of arenavirus glycoprotein processing by the cellular site 1 protease. *Journal of virology* 85:795-803.
44. Burri DJ, Pasqual G, Rochat C, Seidah NG, Pasquato A, **Kunz S**. 2012. Molecular characterization of the processing of arenavirus envelope glycoprotein precursors by subtilisin kexin isozyme-1/site-1 protease. *Journal of virology* 86:4935-4946.
45. Macal M, Lewis GM, **Kunz S**, Flavell R, Harker JA, Zuniga EI. 2012. Plasmacytoid dendritic cells are productively infected and activated through TLR-7 early after arenavirus infection. *Cell Host Microbe* 11:617-630.
46. Pasquato A, Rochat C, Burri DJ, Pasqual G, de la Torre JC, **Kunz S**. 2012. Evaluation of the anti-arenaviral activity of the subtilisin kexin isozyme-1/site-1 protease inhibitor PF-429242. *Virology* 423:14-22.
47. Pythoud C, Rodrigo WW, Pasqual G, Rothenberger S, Martinez-Sobrido L, de la Torre JC, **Kunz S**. 2012. Arenavirus nucleoprotein targets interferon regulatory factor-activating kinase IKKepsilon. *Journal of virology* 86:7728-7738.
48. Rodrigo WW, Ortiz-Riano E, Pythoud C, **Kunz S**, de la Torre JC, Martinez-Sobrido L. 2012. Arenavirus nucleoproteins prevent activation of nuclear factor kappa B. *Journal of virology* 86:8185-8197.
49. Rojek JM, Moraz ML, Pythoud C, Rothenberger S, Van der Goot FG, Campbell KP, **Kunz S**. 2012. Binding of Lassa virus perturbs extracellular matrix-induced signal transduction via dystroglycan. *Cellular microbiology* 14:1122-1134.
50. Burri DJ, da Palma JR, Seidah NG, Zanotti G, Cendron L, Pasquato A, **Kunz S**. 2013. Differential recognition of Old World and New World arenavirus envelope glycoproteins by subtilisin kexin isozyme 1 (SKI-1)/site 1 protease (S1P). *Journal of virology* 87:6406-6414.

51. Burri DJ, Pasquato A, da Palma JR, Igonet S, Oldstone MB, **Kunz S**. 2013. The role of proteolytic processing and the stable signal peptide in expression of the Old World arenavirus envelope glycoprotein ectodomain. *Virology* 436:127-133.
52. Goncalves AR, Moraz ML, Pasquato A, Helenius A, Lozach PY, **Kunz S**. 2013. Role of DC-SIGN in Lassa Virus Entry into Human Dendritic Cells. *Journal of virology* 87:11504-11515.
53. Moraz ML, Pythoud C, Turk R, Rothenberger S, Pasquato A, Campbell KP, **Kunz S**. 2013. Cell entry of Lassa virus induces tyrosine phosphorylation of dystroglycan. *Cellular microbiology* 15:689-700.
54. da Palma JR, Burri DJ, Oppliger J, Salamina M, Cendron L, de Laureto PP, Seidah NG, **Kunz S**, Pasquato A. 2014. Zymogen activation and subcellular activity of subtilisin kexin isozyme 1/site 1 protease. *The Journal of biological chemistry* 289:35743-35756.
55. Pythoud C, Rothenberger S, Martínez-Sobrido L, de la Torre JC, and **Kunz S**. 2015. Lymphocytic choriomeningitis virus differentially affects virus-induced type I IFN response and mitochondrial apoptosis mediated by RIG-I/MAVS. *Journal of virology* 89:6240-50.
56. Oppliger J, da Palma JR, Burri DJ, Bergeron E, Khatib AM, Spiropoulou CF, Pasquato A, **Kunz S**. 2015. A molecular sensor to characterize arenavirus envelope glycoprotein cleavage by subtilisin kexin isozyme-1 (SKI-1)/site-1 protease (S1P). *Journal of virology* 99:705-14.
57. Aebischer O, Meylan P, **Kunz S**, Lazor-Blanchet C. 2016. Lymphocytic choriomeningitis virus infection induced by percutaneous exposure. *Occup Med (Lond)* 66:171-3.
58. da Palma JR, Cendron L, Seidah NG, Pasquato A, **Kunz, S**. 2016. Mechanism of folding and activation of subtilisin kexin isozyme-1(SKI-1)/site-1 protease (S1P). *The Journal of biological chemistry* 29:2055-66.

Reviews and book chapters

1. Sonderegger P, **Kunz S**, Rader C, Buchstaller A, Berger P, Vogt L, Kozlov SV, Ziegler U, Kunz B, Fitzli D, Stoeckli ET. 1998. Discrete clusters of axonin-1 and NgCAM at neuronal contact sites: facts and speculations on the regulation of axonal fasciculation. *Progress in brain research* 117:93-104.
2. Sonderegger P, **Kunz S**, Rader C, Suter DM, Stoeckli ET. 2001. Analysis of cell-cell contact mediated by Ig superfamily cell adhesion molecules. *Current protocols in cell biology / editorial board, Juan S. Bonifacino ... [et al.] Chapter 9:Unit 9 5.*
3. **Kunz S**, Borrow P, Oldstone MB. 2002. Receptor structure, binding, and cell entry of arenaviruses. *Current topics in microbiology and immunology* 262:111-137.
4. Sevilla N, **Kunz S**, McGavern D, Oldstone MB. 2003. Infection of dendritic cells by lymphocytic choriomeningitis virus. *Current topics in microbiology and immunology* 276:125-144.
5. **Kunz S**, de la Torre JC. 2005. Novel antiviral strategies to combat human Arenavirus infections. *Current molecular medicine* 5:735-751.
6. **Kunz S**, de la Torre JC. 2008. Arenavirus infection in the nervous system: uncovering principles of virus-host interaction and viral pathogenesis, p. 75-93. *In Reiss CS (ed.), Neurotropic viral infections*. Cambridge University Press, Cambridge.
7. Rojek JM, **Kunz S**. 2008. Cell entry by human pathogenic arenaviruses. *Cellular microbiology* 10:828-835.
8. **Kunz S**. 2009. The role of the vascular endothelium in arenavirus haemorrhagic fevers. *Thromb Haemost* 102:1024-1029.
9. **Kunz S**. 2009. Receptor binding and cell entry of Old World arenaviruses reveal novel aspects of virus-host interaction. *Virology* 387:245-249.
10. Lee AM, Pasquato A, **Kunz S**. 2010. Novel approaches in anti-arenaviral drug development. *Virology* 411(2):163-9.
11. Moraz ML, **Kunz S**. 2011. Pathogenesis of arenavirus hemorrhagic fevers. *Expert review of anti-infective therapy* 9:49-59.

12. Burri DJ, da Palma JR, **Kunz S**, Pasquato A. 2012. Envelope glycoprotein of arenaviruses. *Viruses* 4:2162-2181.
13. Pasquato A, Burri DJ, **Kunz S**. 2012. Current drug discovery strategies against arenavirus infections. *Expert review of anti-infective therapy* 10:1297-1309.
14. Pasquato A, da Palma JR, Galan C, Seidah NG, **Kunz S**. 2013. Viral envelope glycoprotein processing by proprotein convertases. *Antiviral research*.
15. Pasquato A, **Kunz S**. 2013. The lectin ERGIC-53 goes viral. *Cell host & microbe* 14:485-487.
16. Pasquato A, **Kunz S**. 2016. Novel drug discovery approaches for treating arenavirus infections. *Expert Opin Drug Discov.* 11:383-93.