PETER PALESE

Professor and Chairman
Department of Microbiology
Icahn School of Medicine at Mount Sinai
One Gustave L. Levy Place, Box 1124
New York, NY 10029

ACADEMIC DEGREES

1969	University of Vienna, Ph.D., Chemistry
1970	University of Vienna Pharmacy (Mag. Pharm. Degree)

PROFESSIONAL APPOINTMENTS

1970 - 1971	Postdoctoral Fellow, Roche Institute of Molecular Biology, Department of Cell Biology, Nutley, NJ
1971 - 1974	Assistant Professor, Department of Microbiology, Icahn School of Medicine at Mount Sinai (formerly Mount Sinai School of Medicine), New York, NY
1974 - 1977	Associate Professor, Department of Microbiology, Icahn School of Medicine at Mount Sinai, New York, NY
1976 - Present	Visiting Associate Professor, Department of Microbiology and Immunology, School of Medicine, University of California, Los Angeles
1978 - Present	Professor, Department of Microbiology, Icahn School of Medicine at Mount Sinai, New York, NY
1987 - Present	Chairman, Department of Microbiology, Icahn School of Medicine at Mount Sinai, New York, NY
2006 - Present	Chairman, Department of Microbiology and Professor, Department of Medicine, Icahn School of Medicine at Mount Sinai, New York, NY

SELECTED AWARDS AND PROFESSIONAL ACTIVITIES

1980	Gustave Stern Award for Virology
1978-1981	Member, NSF Grant Review Panel for Genetic Biology
1977-2001	Associate Editor of Virology
1984-2001	Editorial Board, Virus Research
1988-2001	Editorial Board, Journal of Virology
1990-1994, 1999-2003	Member, Virology Study Section, NIAID
1990-1996	Section Editor, Antiviral Research
1991-1995	Recipient, Bristol-Myers Squibb Company Unrestricted Infectious Disease Research Grant
1992-1997	Review Board, Max-Planck Society, Munich (Fachbeirat, Biochemistry)
1995	Co-organizer, Third Annual Bristol-Myers Squibb Symposium on Infectious Diseases, NYC
1996	Irvington Institute Lecturer, The Irvington Institute, NY, NY
1996	The Morse Memorial Lecture, Downstate Medical Center, Brooklyn, NY

1996	Co-organizer, National Academy of Sciences Colloquium: Genetic Engineering of Viruses and Viral Vectors, Irvine, CA
1996-2000	Editorial Board, Clinical Virology
1997	The Richard Klein Memorial Lecture, New York University, NY
1997	The Maurice R. Hilleman Lecture, University of Chicago, IL
1997	Co-organizer, Gordon Research Conference on Viruses and Cells, Tilton, NH
1997	The Maurice R. Hilleman Lecture, University of Chicago, IL
1997-2000	U. S. Medical Licensing Examination (USMLE) Committee for Microbiology
1998	Fellow, American Association for the Advancement of Science
1998	Corresponding Member, Gesellschaft für Virologie
1999	The Julius A. Kasel Memorial Lecture, Baylor College of Med., Houston, TX
2000	Fellow, American Academy of Microbiology
2000	Election to the National Academy of Sciences
2001-2011	Editor, Journal of Virology
2001-2005	Food and Drug Administration, Advisory Committee for Vaccines and Related Biological Products
2001-Present	Editorial Board, Proceedings, National Academy of Sciences
2002	Corresponding Member, Austrian Academy of Sciences
2002	The Bill Joklik Lecturer, 21st American Society for Virology Meeting, Lexington, KY
2002-2003	Member of Institute of Medicine ABC Commission (Acceleration of Bio-warfare Counter Measures)
2002	Senior Scholar Award in Global Infectious Disease, Ellison Medical Foundation
2003-2004	President, The Harvey Society
2004	The Fifth Richard H. Clemons Memorial Lecture (The University of Alabama at Birmingham), Bethesda, MD
2005	Theobald Smith Annual Lecture, Albany Medical College
2005	Howard Taylor Ricketts Award, University of Chicago
2005	Bicknell Lecturer, Boston University, MA
2005	Ehrenzeichen für Wissenschaft und Kunst, Vienna, Austria
2005-2006	President, American Society for Virology
2006	Jacobi Medallion, Mount Sinai School of Medicine
2006	Dr. J. Lester Gabrilove Award for Significant Contributions to Medicine, Mount Sinai Medical Center
2006	Charles C. Shepard Science Award, Centers for Disease Control, Atlanta
2006	James H. Nakano Citation, The National Center for Infectious Diseases of the Centers for Disease Control and Prevention
2006	Dr. honoris causa, Mount Sinai School of Medicine
2006-2009	Committee on Biodefense, American Society for Microbiology, Washington, DC
2006	Robert Koch Prize, Berlin, Germany
2006	Elected Member, The German Academy of Sciences Leopoldina
2006	Co-organizer, 22nd Ernst Klenk Symposium in Molecular Medicine, Emerging Infectious Diseases, Cologne, Germany
2006	Honorary Member, Medical Society, Linz, Austria
2007	Recipient, Wilhelm Exner Medal
2006-2009	Selection Committee of Abbott-American Society of Microbiology Lifetime Achievement Award
2006-Present	Jury Member, Vilcek Prize for Creative Promise in Biomedical Science
2007	Institute of Medicine, Committee on Review of the DOD-GEIS Influenza Programs: Strengthening Global Surveillance and Response

2007	IOM Committee, Assessment of DoD-Geis Influenza Surveillance and Response Programs
2008-Present	Member, Scientific Advisory Board, Robert Koch Foundation, Berlin, Germany
2008	Charles C. Shepard Science Award, Centers for Disease Control, Atlanta
2009-2015	Forschungskuratorium (Council), Austrian Academy of Sciences, Vienna
2009-Present	Committee on International Security and Arms Control (CISAC), National Academy of Sciences
2009	Institute of Medicine, Committee on Respiratory Protection for Healthcare Workers in the Workplace against Novel H1N1 Influenza A
2009	Report to the President on U.S. Preparations for 2009-H1N1 Influenza (Member of PCAST H1N1 study group
2009	The Norman Heatley Lecture, Sir William Dunn School of Pathology, University of Oxford
2010	European Virology Award (EVA), European Society for Virology
2010	6th Annual Johnson-Sokatch Lectureship, University of Oklahoma Health Sciences Center
2010	Student Council Lifetime Achievement Award, Mount Sinai School of Medicine
2011	Institute of Medicine, Committee on Preventing Transmission of Pandemic Influenza and other Viral Respiratory Diseases. Personal Protective Equipment for Healthcare Personnel
2011-Present	Editorial Board, Journal of Virology
2012-Present	Board of Advisors, Institute of Human Virology, Baltimore
2012	Sanofi-Institut Pasteur 2012 Award
2012	Election to the National Academy of Medicine
2014	Elected Fellow of the American Academy of Arts and Sciences
2014	Honorary Doctorate, Baylor College of Medicine
2014	Elected Fellow of the International Society for Vaccines
2014-2016	Membership Committee (Section 2 Vice Chair), National Academy of Medicine
2015	Beijerinck Virology Prize, Royal Netherlands Academy of Arts and Sciences
2015	Chair, New Innovator Award Study Section, NIH
2015	Inventor of the Year Award, Icahn School of Medicine at Mount Sinai
2016	Member, Infectious Diseases Society of America (IDSA)
2016	Honorary Doctorate, McMaster University
2016	Maurice Hilleman/Merck Award, American Society for Microbiology
2016-2018	Membership Committee (Section 2 Chair), National Academy of Medicine
2017	Visiting Professor Lecture, The Hormel Institute, Austin, MN
2017	Honorary Medal of the State of Upper Austria (Goldene Ehrenzeichen des Landes Oberösterreich), Government of Upper Austria, Linz
2017	IHV Lifetime Achievement Award for Scientific Contributions, Institute of Human Virology, University of Maryland School of Medicine
2017	Drexel Prize in Translational Medicine
2017-Present	Board of Directors, Global Virus Network
2018-Present	Member, Scientific Advisory Board, Institute of Human Virology
2018	Presidential Award, the Institute of Science and Technology, hosted by the Austrian Academy of Sciences
2018	Florida Genetics Symposium, University of Florida, Gainesville, FL, Keynote Speaker
2019	R.W. Compans Distinguished Lecturer, Emory University School of Medicine, Atlanta GA
2019	Julius Yougner Memorial Lecture, University of Pittsburgh School of Medicine, Pittsburgh, PA

2019-2020	Member, PNAS Committee on Conflict of Interest, National Academy of Sciences
2019-2020	Member, Committee on Class and Section Structure, National Academy of Sciences
2020	Fellow of the National Academy of Inventors
2021	Elected to the Subcommittee on Elections of the American Academy of Microbiology

PUBLICATIONS

1. Tuppy, H. and Palese, P. Pig kidney neuraminidase. Hoppe-Seyler's, Z. Physiolog. Chemie. 349:1169-1178, 1968.

2. Tuppy, H. and Palese, P. A chromogenic substrate for the investigation of neuraminidase. FEBS Letters, 3:72-75, 1969.

3. Palese, P. Neuraminidase from pig kidneys. Thesis, University of Vienna, 1969.

4. Palese, P., Bodo, G., and Tuppy, H. Quantitative determination of neuraminidase active foci in cell monolayer cultures infected with influenza or Newcastle disease virus. J Virol. 6:556-8, 1970.

5. Horak, I., Hilfenhaus, J., Siegert, W., Jungwirth, C., Bodo, G., and Palese, P. Interferon action: Effect on the formation of poxvirus specific polysomes and viral RNA. Z. Naturforschg, 25b:1164-1170, 1970.

6. Bodo, G., Palese, P., and Lindner, J. Activity of mouse interferon in human cells. Proc. Soc. Exper. Biol. and Med., 137:1392-1395, 1971.

7. Meindl, P., Bodo, G., Lindner, J. and Palese, P. Influence of 2-deoxy-2, 3-dehydro-N-acetylneuraminic acid on myxovirus neuraminidases and the replication of influenza and Newcastle disease virus. Z. Naturforsch, 26b:792-797, 1971.

8. Aubertin, A., Palese, P., Tan, K.B, and McAuslan, B.R. Proteins of a polyhedral cytoplasmic deoxyvirus. J Virol., 8:643-8, 1971.

9. Palese, P. and McAuslan, B.R. Virus-associated DNase: endonuclease in a polyhedral cytoplasmic deoxyvirus, Virology, 49:319-21, 1973.

10. Palese, P. and Koch, G. Degradation of a single and double-stranded RNA by frog virus 3. Proc. Natl. Acad. Sci., 69:698-701, 1972.

11. Palese, P., Bucher, D., and Kilbourne, E.D. Applications of a synthetic neuraminidase substrate. Appl. Microbiol., 25:195-201, 1973.

12. Palese, P. and Schulman, J.L. Isolation and characterization of influenza virus recombinants with high and low neuraminidase activity: use of 2-(3'-methoxphenyl)-N-acetylneuraminic acid (MPN) to identify cloned populations. Virology, 57:227-237, 1974.

13. Meindl, P., Bodo, G., Palese, P., Schulman, J.L., and Tuppy, H. Inhibition of neuraminidase activity by derivatives of 2-deoxy-3, 3-dehydro-N-acetylneuraminic acid. Virology, 58:457-463, 1974.

14. Palese, P., Schulman, J.L., Bodo, G., and Meindl, P. Inhibition of influenza and parainfluenza virus replication in tissue culture by 2-deoxy-2, 3-dehydro-N-trifluoracetylneuraminic acid (FANA). Virology, 59:490-498, 1974.

15. Kilbourne, E.D., Palese, P., and Schulman, J.L. Inhibition of viral neuraminidase as a new approach to the prevention and treatment of influenza. Perspect. Virol, IX:99-113, 1974.

16. Palese, P., Schulman, J.L., and Tobita, K. The requirement of neuraminidase activity for influenza virus replication. Behring Institute Research Communications, Behringwerke, Marburg, Germany. 55:11-18, 1974.

17. Compans, R.W., Meier-Ewert, H., and Palese, P. Assembly of lipid containing viruses. J. Supramol. Structure, 2:296-511, 1974.

18. Palese, P., Tobita, K., Ueda, M., and Compans, R.W. Characterization of temperature-sensitive influenza virus mutants defective in neuraminidase. Virology, 61:397-410, 1974.

19. Schulman, J.L. and Palese, P. Susceptibility of different strains of influenza A virus to the inhibitory effects of 2-deoxy-2, 3-dehydro-N-trifluoroacetylneuraminic acid. Virology, 63:98-104, 1975.

20. Krug, R.M., Ueda, M., and Palese, P. Temperature-sensitive mutants of influenza WSN virus defective in virus-specific RNA synthesis. J Virol., 16:790-6, 1975.

21. Bucher, D. and Palese, P. The biologically active proteins of influenza virus: Neuraminidase. In: The Influenza Viruses and Influenza (E.D. Kilbourne, ed.), Academic Press, New York, pp. 84-123, 1975.

22. Palese, P. and Compans, R.W. Inhibition of influenza virus replication in tissue culture by 2-deoxy-2, 3-dehydro-N-trifluoroacetylneuraminic acid: Mechanism of action. J. GeneralVirology, 33:159-163, 1976.

23. Palese, P., and Schulman, J.L. Differences in RNA pattern of influenza viruses. J Virol., 17:876, 1976.

24. Ritchey, M., Palese, P., and Kilbourne, E.D. RNAs of influenza A, B, and C viruses. J Virol., 18:738-44, 1976.

25. Ritchey, M., and Palese, P. In vitro translation of influenza virus messenger RNAs. Virology, 72:410, 1976.

26. Schulman, J.L., and Palese, P. Selection and identification of influenza virus recombinants of defined genetic composition. J Virol., 20:248-54, 1976.

27. Palese, P., Ritchey, M.B., Schulman, J.L., and Kilbourne, E.D. Genetic composition of a high yielding influenza A virus recombinant: a vaccine strain against "swine" influenza. Science, 194:334-335, 1976.

28. Palese, P. and Schulman, J.L. RNA pattern of "swine" influenza virus isolated from man is similar to those of other swine influenza viruses. Nature, 263:528-530, 1976.

29. Palese, P. and Schulman, J.L. Mapping of the influenza virus genome: Identification of the hemagglutinin and neuraminidase genes. Proc. Natl. Acad. Sci., USA. 73:2142-2146, 1976.

30. Palese, P., Ritchey, M.B., and Schulman, J.L. Mapping of the influenza virus genome: II. Identification of the P1, P2, and P3 genes. Virology, 76:114-121, 1977.

31. Ritchey, M.B., Palese, P., and Schulman, J.L. Mapping of the influenza virus genome: III. Identification of the genes coding for nucleoprotein, membrane protein, and nonstructural protein. J Virol., 20:307-13, 1976.

32. Ritchey, M.B., Palese, P., and Schulman, J.L. Differences in protein patterns of influenza A viruses. Virology, 76:122-128, 1977.

33. Palese, P. and Ritchey, M.B. P1 and P3 proteins of influenza virus are required for complementary RNA synthesis. J Virol., 21:1187-95, 1977.

34. Ritchey, M.B. and Palese, P. Identification of the defective genes in three mutant groups of influenza virus. J Virol., 21:1196-1204, 1977.

35. Palese, P. and Ritchey, M.B. Live attenuated influenza virus vaccines: Strains with temperature-sensitive defects in P3 protein and nucleoprotein. Virology, 78:183-191,1977.

36. Palese, P. and Schulman, J.L. "Inhibitors of Viral Neuraminidase as Potential Antiviral Drugs." In: *Chemoprophylaxis and Viral Infections of the Respiratory Tract*, edited by J. Oxford, 189-206, Ohio: CRC Press, 1977.

37. Palese, P. and Ritchey, M.B. "Myxovirus: Orthomyxovirus- Influenza Virus." In: *Handbook in Clinical laboratory Sciences*.*Virology and Rickettsiology* edited by G.D. Hsiung and R. Green, 337-359, Ohio: CRC Press, 1977.

38. Palese, P. The genes of influenza virus. Cell, 10:1-10, 1977.

39. Schulman, J.L. and Palese, P. Virulence factors of influenza A viruses: WSN virus neuraminidase required for productive infection in MDCK cells. J Virol., 24:170-6, 1977.

40. Palese, P., Schulman, J.L., and Ritchey, M.B. Influenza virus genes: characterization and biological activity. In: *Perspectives in Virology*, edited by M. Pollard, 57-71, New York: Raven Press, 1978.

41. Palese, P. and Ritchey, M.B. Polyacrylamide gel electrophoresis of the RNAs of new influenza virus strains: An epidemiological tool. IABS Symposium on Influenza Immunization, WHO, Geneva, S. Karger, Basel, 39:411-415, 1977.

42. Racaniello, V.R. and Palese, P. "The Genes of Influenza Virus: Analysis of Influenza B Virus Strains." In: *Negative Strand Viruses and the Host Cell*, edited by R.D. Barry and B.W.J. Mahy, 27-36, London: Academic Press,1978.

43. Schulman, J.L. and Palese, P. "Biological Properties of Recombinants of Influenza A/Hong Kong and A/PR8 Viruses: Effects of Genes for Matrix Protein and Nucleoprotein on Virus Yield in Embryonated Eggs. In: *Negative Strand Viruses and the Host Cell* R.D. Barry and B.W.J. Mahy, 663-674, London: Academic Press, 1978.

44. Moss, B., Keith, J.M., Gershowitz, A., Ritchey, M.B. and Palese, P. Common sequence at the 5' - ends of the segmented RNA genomes of influenza A and B viruses. J Virol., 25:312-8, 1978.

45. Lubeck, M.D., Schulman, J.L. and Palese, P. Susceptibility of influenza A viruses to amantadine is determined by the gene coding for M protein. J Virol., 28:710-6, 1978.

46. Desselberger, U., Nakajima, K., Alfino, P., Pedersen, F.S., Haseltine, W.A., Hannoun, C., and Palese, P. Biochemical evidence that "new " influenza virus strains in nature may arise by recombination (reassortment). Proc. Natl. Acad. Sci., USA. 75:3341-3345, 1978.

47. Desselberger, U. and Palese, P. Molecular weights of RNA segments of influenza A and B viruses. Virology, 88:394-399, 1978.

48. Palese, P. "The Hemagglutinin Gene of Influenza Viruses." The Influenza Virus Hemagglutinin, Topics in *Infectious Diseases*, edited by W.G. Laver, H. Bachmayer and R. Weill, 49-57, Vienna: Springer-Verlag, 1978.

49. Nakajima, K., Desselberger, U. and Palese, P. Recent human influenza A (H1N1) viruses are closely related genetically to strains isolated in 1950. Nature, 274:334-339, 1978.

50. Racaniello, V.R. and Palese, P. The influenza B virus genome: Assignment of viral polypeptides to RNA segments. J Virol. 29:361-73, 1979.

51. Lubeck, M.D., Palese, P. and Schulman, J.L. Nonradon association of parental genes in influenza A virus recombinants. Virology, 95:269-274, 1979.

52. Palese, P., Racaniello, V.R., Desselberger, U., Young, J.F., and Baez, M. Genetic structure and genetic variation of influenza viruses. Phil. Trans. R. Soc. Lond. B288:299-305, 1980.

53. Desselberger, U., Racaniello, V.R., Zazra, J.J., and Palese, P. The 3' and 5' terminal sequences of influenza A, B, and C, virus genes are highly conserved and show partial inverted complementarity. Gene, 8:315-328, 1980.

54. Young, J.F., Desselberger, U., and Palese P. Evolution of new H1N1 influenza A viruses in nature. Cell, 18:73-83, 1979.

55. Palese, P. Genetic variation of human influenza viruses. Trends in Biochemical Sciences, 5:III-V, 1980.

56. Baez, M., Palese, P., and Kilbourne, E.D. Gene composition of high yielding influenza vaccine strains obtained by recombination. J. Infectious Diseases, 141:362-365, 1980.

57. Young, J.F., and Palese, P. Evolution of human influenza A viruses in nature: recombination contributes to genetic variation of H1N1 strains. Proc. Natl. Acad. Sci. USA, 76:6547-6551, 1979.

58. Racaniello, V.R., and Palese, P. Isolation of influenza C virus recombinants. J Virol., 32:1006-14, 1979.

59. Lubeck, M.D., Schulman, J.L., and Palese, P. Antigenic variants of influenza viruses: Marked differences in the frequencies of variants selected with different monoclonal antibodies. Virology, 102:458-462, 1980.

60. Desselberger, U., Zamecnik, P., and Palese, P. "3'-Terminal Sequences of Hemagglutinin and Neuraminidase Genes of Different Influenza A Viruses." In: *Proceedings of the International Workshop on Structure and Variation in the Influenza Virus in Thredbo, Australia* edited by W.G. Laver and G.M. Air, 169-179, New York: Elsevier Sci. Publishers, 1980.

61. Young, J.F., Berkowitz, E.M., and Palese, P. Mechanisms of genetic variation in human influenza viruses. Annals of the New York Academy of Sciences, 354:135, 1980.

62. Brand, C., and Palese, P. Sequential passage of influenza virus in embryonated eggs or tissue culture: Emergence of mutants. Virology, 107:424, 1980.

63. Palese, P., Brand, C., Young, J.F., Baez, M., Six, H.R., and Kasel, J.A. Molecular epidemiology of influenza viruses. Perspectives in Virology, 11:115, 1981.

64. Baez, M., Taussig, R., Zazra, J.J., Young, J.F., Palese, P., Reisfeld, A., and Skalka, A.M. Complete nucleotide sequence of the influenza A/PR/8/34 virus NS gene and comparison with the NS genes of the A/Udorn/72 and A/FPV/Rostock/34 strains. Nucleic Acids Research, 8:5845, 1980.

65. Young, J.F., Taussig, R., Aaronson, R.P., and Palese, P. "Advantages and Llimitations of the Oligonucleotide Mapping Technique for the Aanalysis of Viral RNAs." In: *Replication of Negative Strand Viruses*, edited by D.H.L. Bishop and R.W. Compans, 209-215, New York: Elsevier Science Publishers, 1981.

66. Palese, P. New biochemical techniques for the characterization of viruses to assist the epidemiologist. J. Infectious Diseases, 142:633, 1980.

67. Baez, M., Zazra, J.J., Elliott, R.M., Young, J.F., and Palese, P. Nucleotide sequence of the influenza A/duck/Alberta/60/76 virus NS RNA: Conservation of the NS1/NS2 overlapping gene structure in a divergent influenza virus RNA segment. Virology, 113:397, 1981.

68. Aaronson, R.P., Young, J.F., and Palese, P. Oligonucleotide mapping: Evaluation of its sensitivity by computer simulation. Nucleic Acids Research, 10:237, 1981.

69. Mitsialis, S.A., Young, J.F., Palese, P. and Guntaka, R.V. An avian tumor virus promoter directs expression of plasmid genes in E. coli. Gene, 16:217, 1981.

70. Palese, P. and Young, J.F. Variation of influenza A, B, and C viruses. Science, 215:1468, 1982.

71. Palese, P., Elliott, R.M., Baez, M., Zazra, J.J., and Young, J.F. Genome diversity among influenza A, B, and C viruses and genetic structure of RNA 7 and RNA 8 of influenza A viruses. In: *Genetic Variation Among Influenza Viruses* edited by D. Nayak, 127-140, New York: Academic Press, 1981.

72. Krystal, M., Elliott, R.M., Benz, E.W., Young, J.F., and Palese, P. Evolution of influenza A and B viruses: conservation of structural features in the hemagglutinin genes. Proc. Natl. Acad. Sci., USA, 79:4800, 1982.

73. Young, J.F., Desselberger, U., Graves, P., Palese, P., Shatzman, A, and Rosenberg, M. "Cloning and Expression of Influenza Virus Genes. In: *The Origin of Pandemic Viruses*, edited by W.G. Laver, 129-138, New York: Elsevier Science Publishers, 1982.

74. Krystal, M., Buonogurio, D., Young, J.F., and Palese, P. Sequential mutations in the NS genes of influenza virus field strains. J Virol., 45:547, 1983.

75. Krystal, M., Young, J.F., Palese, P., Wilson, I.A., Skehel, J.J., and Wiley, D.C. Sequential mutations in the hemagglutinins of influenza B virus isolates: definition of antigenic domains. Proc. Natl. Acad. Sci. USA, 80:4257, 1983.

76. Graves, P.N., Schulman, J.L., Young, J.F., and Palese, P. Preparation of influenza virus subviral particles lacking the HA1 subunit of hemagglutinin: unmasking of cross-reactive HA2 determinants. Virology, 126:106, 1983.

77. Parvin, J.D., Young, J.F., Palese, P. Nonsense mutations affecting the lengths of the NS1 nonstructural proteins of influenza A virus isolates. Virology, 128:512, 1983.

78. Palese, P., and Young, J.F. "Molecular Epidemiology of Influenza Virus." In: *Genetics of Influenza Viruses*, edited by P. Palese and D.W. Kingsbury, 321-336, Vienna: Springer-Verlag, 1983.

79. Young, J.F., Capecchi, M., Laski, F.A., RajBhandary, U., Sharp, P.A., and Palese, P. Measurement of suppressor tRNA activity. Science, 221:873, 1983.

80. Young, J.F., Desselberger, U., Palese, P., Ferguson, B., Shatzman, A.R., and Rosenberg, M. Efficient expression of influenza virus NS1 nonstructural proteins in E. coli. Proc. Natl. Acad. Sci., USA, 80:6105, 1983.

81. Krystal, M., Nakada, S., Buonagurio, D.A., DeBorde, D.C., Maasab, J.F., and Palese, P. "The Nonstructural Gene Segment of Influenza A Virus: Expression of NS1 Protein in Mammalian Cells; Analysis of a Deletion Mutant." In: *Proceedings of the 5th International Symposium on Negative Strand Viruses*, edited by D.H.L. Bishop and R.W. Compans, 147-157, New York: Elsevier Sci. Publishers, 1984.

82. Nakada, S., Creager, R.S., Krystal, M., Aaronson, R.P. and Palese, P. Influenza C virus hemagglutinin: comparison with influenza A and B virus hemagglutinins. J Virol., 50:118, 1984.

83. Buonagurio, D.A., Krystal, M., Palese, P., Maassab, H.F., and DeBorde, D.C. Analysis of an influenza A virus mutant with a deletion in the NS segment. J Virol., 49:418, 1984.

84. Palese, P. "Reassortment Continuum." In: *Concepts in Viral Pathogenesis* edited by A.L. Notkins and M.B.A. Oldstone, 144-151, New York: Springer-Verlag, 1984.

85. Townsend, A.R.M., Skehel, J.J., Taylor, P.M. and Palese, P. Recognition of influenza A virus nucleoprotein by an H-2-restricted cytotoxic T-cell clone. Virology, 133:456, 1984.

86. Nakada, S., Creager, R.S., Krystal, M., and Palese, P. Complete nucleotide sequence of the influenza C/California/78 virus nucleoprotein gene. Virus Research, 1:433, 1984.

87. Laski, F.A., Belagaje, R., Hudziak, R.M., Capecchi, M.R., Norton, G.P., Palese, P., RajBhandary, U.L., Sharp, P.A. Synthesis of an ochre suppressor tRNA gene and expression in mammalian cells. EMBO, 3:2445, 1984.

88. Palese, P. " Variation Influenza Viruses." In: *Reye's Syndrome IV: Proceedings of the Fourth International Conference on Reye's Syndrome*, edited by J.D. Pollack, 100-106, Ohio:The National Reye's Sundrome Foundation, 1985.

89. Greenspan, D., Krystal, M., Nakada, S., Arnheiter, H., Lyles, D.S., and Palese, P. Expression of NS2 nonstructural protein in bacteria and localization of NS2 in infected eukaryotic cells. J Virol., 54:833-843, 1985.

90. Nakada, S., Graves, P.N., Desselberger, U., Creager, R.S., Krystal, M., and Palese, P. Influenza C virus RNA 7 codes for a nonstructural protein. J Virol., 56:221-226, 1985.

91. Buonagurio, D.A., Nakada, S., Desselberger, U., Krystal, M. and Palese, P. Noncumulative sequence changes in the hemagglutinin genes of influenza C virus isolates. Virology, 146:221-232, 1985.

92. Parvin, J.D., Smith, F.I., and Palese, P. Rapid DNA sequencing using double-stranded template DNA, SP6 polymerase and 3'-deoxy nucleotide triphosphates. DNA, **5**:167-171, 1986.

93. Krystal, M., Li, R., Lyles, D., Pavlakis, G., and Palese, P. Expression of the three influenza virus polymerase proteins in a single cell allows for growth complementation of viral mutants. Proc. Natl. Acad. Sci., 83:2709-2713, 1986.

94. Smith, F.I., Parvin, J.D., and Palese, P. Detection of single base substitutions in influenza virus RNA molecules by denaturing gradient gel electrophoresis of RNA-RNA or DNA-RNA heteroduplexes. Virology, 150:55-64, 1986.

95. Palese, P. "Rapid Evolution of Human Influenza Viruses" In: *Evolutionary Processes and Theory*, edited by S. Karlin, and E. Nevo, New York: Academic Press, 1986.

96. Nakada, S., Graves, P.N., and Palese, P. The influenza C virus NS gene: evidence for a spliced mRNA and a second NS gene product (NS2 protein). Virus Research, 4:263-273, 1986.

97. Buonagurio, D.A., Nakada, S., Parvin, J.D., Krystal, M., Palese, P. and Fitch, W.M. Evolution of human influenza A viruses over 50 years: rapid, uniform rate of change in NS gene. Science, 232:980-982, 1986.

98. Parvin, J.D., Moscona, A., Pan, W.T., Leider, J.M., and Palese, P. Measurement of the mutation rate of animal viruses: Influenza A virus and poliovirus-1. J Virol., 59:377-83, 1986.

99. Buonagurio, D.A., Nakada, S., Fitch, W.M., Palese, P. Epidemiology of influenza C virus in man: multiple evolutionary lineages and low rate of change. Virology, 153:12-21, 1986.

100. Graves, P.N., Grabowski, G.A., Ludman, M.D., Palese, P., and Smith, F.I. Human acid b-glucosidase: Northern blot and S1 nuclease analysis of mRNA from HeLa cells and normal and gaucher disease fibroblasts. Am. J. Hum. Genet. 39:763-774, 1986.

101. Palese, P. and Buonagurio, D.A. "Influenza viruses: Genome structure, transcription and replication of viral RNA" In: *The Molecular Basis of Viral Replication*, edited by Bercoff, R.P., 299-316. New York: Plenum Publishing, 1986.

102. Palese P, Webster R. Germ of an idea. Nature. 1987 Oct 8-14;329(6139):480. PMID: 3657970

103. Krystal, M. and Palese, P. "Permanent expression of influenza virus genes coding for transcriptase complexes: Complementation of viral mutants" In: *Molecular Biology of RNA: New Perspectives*, edited by M. Inouye, and B.S. Dudock, 211-216. New York: Academic Press, 1987.

104. Ho, Y.-S., Norton, G.P., Palese, P., Dozy, A.M., and Kan, Y.W. Expression and function of suppressor tRNA genes in mammalian cells. Cold Spring Harbor Symposium for Quantitative Biology (51), 1987.

105. Norton, G.P., Tanaka, T., Tobita, K., Nakada, S., Buonagurio, D.A., Greenspan, D., Krystal, M., and Palese, P. Infectious influenza A and B virus variants with long carboxyl-terminal deletions in the NS1 polypeptides. Virology, 156:204-213, 1987.

106. Vlasak, R., Krystal, M., Nacht, M., and Palese, P. The influenza C virus glycoprotein (HE) exhibits receptor binding (hemagglutinin) and receptor destroying (esterase) activities. Virology, 160:419-425, 1987.

107. Hsu, M.-T., Parvin, J.D., Gupta, S., Krystal, M. and Palese, P. Genomic RNAs of influenza viruses are held in a circular conformation in virions and in infected cells by a terminal panhandle. Proc. Natl. Acad. Sci., USA 84:8140-8144, 1987.

108. Smith, G.L., Levin, J., Palese, P., and Moss, B. Synthesis and cellular location of the ten influenza polypeptides individually expressed by recombinant vaccinia viruses. Virology 160:336-345, 1987.

109. Krystal, M., Li, R., Lyles, D. and Palese, P. "Development of a tissue culture complementation system for influenza viruses." In: *The Biology of Negative Strand Viruses*, edited by B.W.J. Mahy and D. Kolakovsky, 98-107. Amsterdam: Elesevier Sci. Publishers, 1987.

110. Smith, F.I., and Palese, P. "Influenza viruses: High rate of mutation and evolution" In: *RNA Genetics, Vol. III:*, edited by Domingo, E., Holland, J. and Ahlquist, P., 123-135. Florida: CRC Press, 1988.

111. Yamashita, M., Krystal, M., Fitch, W.M., and Palese, P. Influenza B virus evolution: Cocirculating lineages and comparison of evolutionary pattern with those of influenza A and C viruses. Virology 163:112-122, 1988.

112. Leider, J.M., Palese, P., and Smith, F.I. Determination of the mutation rate of a retrovirus. J Virol. 62:3084-91, 1988.

113. Vlasak, R., Luytjes, W., Spaan, W., and Palese, P. Human and bovine coronaviruses recognize sialic acid containing receptors similar to those of influenza C viruses. Proc. Natl. Acad. Sci. 85:4526-4529, 1988.

114. Smith, F.I., Latham, T.E., Ferrier, J.A., and Palese, P. Novel method of detecting single base subsititutions in RNA molecules by differential melting behaviour in solution. Genomics 3:217-223, 1988.

115. Graves, P.M., Grabowski, G.A., Palese, P. and Smith, F.I. Gaucher disease type 1: Identification of missense mutations in a cDNA encoding acid b-glucosidase from an Ashkenazic Jewish patient. DNA **7**:521-528, 1988.

116. Greenspan, D., Palese, P., and Krystal, M. Two nuclear location signals in the influenza virus NS1 nonstructural protein. J Virol. 62:3020-26, 1988.

117. Yamashita, M., Krystal, M., and Palese, P. Evidence that the matrix protein of influenza C virus is coded for by a spliced mRNA. J Virol., 62:3348-55, 1988.

118. Vlasak, R., Luytjes, W., Leider, J., Spaan, W., and Palese, P. The E3 protein of bovine coronavirus is a receptor-destroying enzyme with acetylesterase activity. J Virol. 62:4686-90, 1988

119. Palese, P. "Correlation of high evolutionary rate of influenza A viruses in man with high mutation rate measured in tissue culture: A hypothesis" In: *Modern Trends in Virology*, Bauer, H., Klenk, H.D., Scholtissek, CH., 23-27. Germany: Springer-Verlag, 1988.

120. Smith, F.I., and Palese, P. "Variation in Influenza A, B, and C virus genes" In: *The Influenza Viruses*, edited by Krug, R.M., 319-359. New York: Plenum Press, 1989.

121. Vlasak, R., Muster, T., Lauro, A.M., Powers, J.C., and Palese, P. Influenza C virus esterase: analysis of catalytic site, inhibition and possible function. J Virol. 63:2056-62, 1989.

122. Li, R., Palese, P., and Krystal, M. Complementation and analysis of an NP mutant of influenza virus. Virus Research 12:97-111, 1989.

123. Palese, P., and Yamashita, M. "Evolutionary lineages and molecular epidemiology of influenza A, B, and C viruses" In: *Applied Virology Research*, edited by Kurstak, E., Marausyk, R.G. Murphy F.A. and van Regenmortel, M.H.V., 119-129. New York: Plenum Publishing, 1989.

124. Yamashita, M., Krystal, M., and Palese, P. Comparison of the three large polymerase proteins of influenza A, B, and C viruses. Virology 171:458-466, 1989.

125. Parvin, J.D., Palese, P., Honda, A., Ishihama, A., and Krystal, M. Promoter analysis of the influenza viral RNA polymerase. J Virol. 63:5142-52, 1989.

126. Leiter, J.M.E., Krystal, M., and Palese, P. Expression of antisense RNA fails to inhibit influenza virus replication. Virus Research 14:141-160, 1989.

127. Luytjes, W., Krystal, M., Enami, M., Parvin, J.D., and Palese, P. Amplification, expression and packaging of a foreign gene by influenza virus. Cell 59:1107-1113, 1989.

128. Enami, M., Luytjes, W., Krystal, M., and Palese, P. Introduction of site-specific mutations into the genome of influenza virus. Proc. Natl. Acad. Sci. 87:3802-3805, 1990.

129. Leiter, J.M.E., Agrawal, S., Palese, P., and Zamecnik, P.C. Inhibition of influenza virus replication by phosphorothioate oligodeoxynucleotides. Proc. Natl. Acad. Sci. 87:3430-3434, 1990.

130. Huang, T., Palese, P., and Krystal, M. Determination of influenza virus proteins required for genome replication. J Virol. 64:5669-73, 1991.

131. Lin, D.A., Roychoudhury, S., Palese, P., Clay, W.C., and Fuller, F.J. Evolutionary relatedness of the predicted gene product of RNA segment 2 of the tick-borne Dhori virus and the PB1 polymerase gene of influenza viruses. Virology, 182:1-7, 1991.

132. Enami, M., and Palese, P. High efficiency formation of influenza virus transfectants. J Virol. 65:2711-13, 1991.

133. Fitch, W.M., Leiter, J.M.E., Li, X., and Palese, P. Positive Darwinian evolution in human influenza A viruses. Proc. Natl. Acad. Sci. USA, 88:4270-4274, 1991.

134. Luo, G., Luytjes, W., Enami, M., and Palese, P. The polyadenylation signal of influenza virus RNA involves a stretch of uridines followed by the RNA duplex of the panhandle structure. J Virol. 65:2861-7, 1991.

135. Muster, T., Subbarao, E.K., Enami, M. Murphy, B.R. and Palese, P. An influenza A virus containing influenza B virus 5' and 3' noncoding regions on the neuraminidase gene is attenuated in mice. Proc. Natl. Acad. Sci. USA, 88:5177-5181, 1991.

136. Enami, M., Sharma, G., Benham, C., and Palese, P. An influenza virus containing nine different RNA segments. Virology, 185:291, 1991.

137. Klotz, F.W., Orlandi, P.A., Reuter, G., Cohen, S.J., Haynes, J.D., Schauer, R., Howard, R.J., Palese, P., and Miller, L.H. Binding of Plasmodium falciparum 175 kDa erythrocyte binding antigen and invasion of murine erythrocytes requires n-acetylneuraminic acid. Molecular and Biochemical Parasitology, 51:49-54, 1992.

138. Li, S., Schulman, J.L., Moran, T., Bona, C., and Palese, P. Influenza A virus transfectants with chimeric hemagglutinins containing epitopes from different subtypes. J Virol. 66:399-404, 1992.

139. Luo, G., and Palese, P. Genetic analysis of influenza virus. Current Opinions in Genetics and Development. **2**:77-81, 1992.

140. Li, X. and Palese, P. Mutational analysis of the promoter required for influenza virus virion RNA synthesis. J Virol. 66:4331-38, 1992.

141. Luo, G., Bergmann, M., García-Sastre, A., and Palese, P. Mechanism of attenuation of a chimeric influenza A/B transfectant virus. J Virol. 66:4679-85, 1992.

142. Bergmann, M., García-Sastre, A., and Palese, P. Transfection mediated recombination of influenza A virus. J Virol. 66:7576-7580, 1992.

143. Palese, P. "Evolution of influenza and RNA viruses." In: *Emerging Viruses*, edited by S. Morse, 226-233. New York: Oxford University Press, 1993.

144. Piccone, M.E., Fernandez-Sesma, A., and Palese, P. Mutational analysis of the influenza virus vRNA promoter. Virus Research 28:99-112, 1993.

145. Palese, P., Li, S., and Bergmann, M. "Genetic manipulation of influenza virus: A molecular approach to vaccine development." In: *Options for the Control of Influenza II*, edited by C.Hannoun, A.P. Kendal, H.D. Klenk, F.L. Ruben, 263-267. New York: Elsevier Sci. Publishers, 1993.

146. Luo, G., Chung, J. and Palese, P. Alterations of the stalk of the influenza virus neuraminidase: Deletions and insertions. Virus Research 29:141-153, 1993. PMID: 8237114

147. Li, S., Polonis, V., Isobe, H., Zaghouani, H., Guinea, R., Moran, T., Bona, C. and Palese, P. Chimeric influenza virus induces neutralizing antibodies and cytotoxic T cells against human immunodeficiency virus type 1. J Virol. 67:6659-66, 1993.

148. Rodrigues, M., Rodriguez, D., Rodriguez, J., Esteban, M., Palese, P., Nussenzweig, R. S., and Zavala, F. Priming with recombinant influenza virus followed by administration of recombinant vaccinia virus induces CD8+ T cell-mediated protective immunity against malaria. Proc. Natl. Acad. Sci. USA 90:5214-5218, 1993.

149. García-Sastre, A. and Palese, P. "Genetic manipulation of negative-strand RNA virus genomes." In: *Annual Review of Microbiology*, Vol.47, edited by L.N. Ornston, 765-790. Palo Alto, CA: Annual Reviews, Inc., 1993.

150. García-Sastre, A. and Palese, P. "Infectious influenza viruses from cDNA-derived RNA: reverse genetics" In: *Regulation of Gene Expression in Animal Viruses*, edited by L. Carrasco et al., 107-114. New York: Plenum Press, 1993.

151. Li, S., Schulman, J.L., Itamura, S. and Palese, P. Glycosylation of neuraminidase determines the neurovirulence of influenza A/WSN/33 Virus. J Virol. 67:6667-73, 1993.

152. Palese, P. and García-Sastre, A. "Influenza Viruses: Molecular Biology." In: *Encyclopedia of Virology*, edited by R.G. Webster and A. Granoff, 830-836. London: Academic Press Ltd., 1999.

153. Li, X. and Palese, P. Characterization of the polyadenylation signal of influenza virus RNA. J Virol. 68**:**1245-9, 1994.

154. Muster, T., Guinea, R., Trkola, A., Purtscher, M., Klima, A., Steindl, F., Palese, P. and Katinger, H. Cross-Neutralizing activity against divergent human immunodeficiency virus type 1 isolates induced by the gp41 sequence ELDKWAS. J Virol. 68:4031-4034, 1994.

155. Percy, N., Barclay, W.S., García-Sastre, A. and Palese, P. Expression of a foreign protein by influenza A virus. J Virol. 68:4486-92, 1994.

156. García-Sastre, A., Muster, T., Barclay, W.S., Percy, N. and Palese, P. Use of a mammalian

internal ribosomal entry site element for expression of a foreign protein by a transfectant influenza virus. J Virol. 68:6254-61, 1994.

157. Zürcher, T., Luo, G. and Palese, P. Mutations at palmitylation sites of the influenza virus hemagglutinin affect virus formation. J Virol. 68:5748-54, 1994.

158. O'Neill, R.E., and Palese, P. Cis-acting signals and trans-acting factors involved in influenza virus RNA synthesis. Infectious Agents and Disease 3:77-84, 1994.

159. Rodriguez, M., Li, S., Murata, K., Rodriguez, D., Rodrigues, J.R., Bacik, I., Bennink, J.R., Yewdell, J.W., García-Sastre, A., Nussenzweig, R.S., Esteban, M., Palese, P. and Zavala, F. Influenza and vaccinia viruses expressing malaria $CD8^{+}$T and B cell epitopes. J. Immunol. 153:4636-4648, 1994.

160. García-Sastre, A., Percy, N., Barclay, W., Palese, P. "Introduction of foreign sequences into the genome of influenza A virus." In: *Recombinant Vectors in Vaccine Development.* Dev. Biol. Stand. vol.82, edited by F. Brown, 237-246. Basel: Karger, 1994.

161. Muster, T., Trkola, A., Purtscher, M., Klima, A., Steindl, F., Katinger, H., Guinea, R. and *Palese, P. "A gp41-specific epitope presented by a chimeric influenza virus elicits broadly neutralizing antibodies against HIV-1." In: *Vaccines94* edited by E. Norrby, F. Brown, R.M. Chanock and H.S. Ginsberg, 169-173. Cold Spring Harbor: Cold Spring Harbor Laboratory Press, 1994.

162. Carabellese F, Sacco MP, Amerio L, Buzzerio R, Palese P. “Some notes on psychopathological origins of maladjustment of young conscripts in national service: a methodological contribution in the diagnosis of personality disorders.” Minerva Psichiatr. 1994 Sep;35(3):147-54. Italian. PMID: 7968411

163. O'Neill, R.E. and Palese, P. NPI-1, the human homologue of SRP-1, interacts with influenza virus nucleoprotein. Virology 206:116-125, 1995.

164. Harty, R.N. and Palese, P. Mutations within noncoding terminal sequences of model RNAs of sendai virus: Influence on reportor gene expression. J Virol. 69:5128-31, 1995.

165. Isobe, H., Moran, T., Li, S., Young, A., Nathenson, S., Palese, P. and Bona, C. Presentation by a major histocompatibility complex class I molecule of nucleoprotein peptide expressed in two different genes of an influenza virus transfectant. J. Exp. Med. 181:203-213, 1995.

166. Barclay, W.S. and Palese, P. Influenza B viruses with site-specific mutations introduced into the HA gene. J Virol. 69:1275-9, 1995.

167. García-Sastre, A. and Palese, P. Influenza virus vectors. Biologicals 23:171-178, 1995.

168. Palese, P. Genetic engineering of infectious negative-strand RNA viruses. Trends in Microbiology 3:123-125, 1995.

169. García-Sastre, A. and Palese, P. The cytoplasmic tail of the neuraminidase protein of influenza A virus does not play an important role in the packaging of this protein into viral envelopes. Virus Research 37**:**37-47, 1995.

170. Muster, T., Ferko, B., Klima, A., Purtscher, M., Schultz, P. Grassauer, A, Katinger, H., Engelhart, O., García-Sastre, A., Palese, P. Secretory antibodies against HIV-1 induced by a chimeric influenza virus. In: *Vaccines95*, edited by R.M. Chanock, F. Brown, H.S. Ginsberg, E. Norrby, 363-368. Cold Spring Harbor: Cold Spring Harbor Laboratory Press, 1995.

171. Muster, T., Ferko, B., Klima, A., Purtscher, M., Trkola, A., Schulz, P., Grassauer, A., Engelhardt, O.G., García-Sastre, A., Palese, P. and Katinger, H. Mucosal model of immunization against human immunodeficiency virus type 1 with a chimeric influenza virus. J Virol. 69:6678-86, 1995.

172. Harty, R.N. and Palese, P. Measles virus phosphoprotein (P) requires the NH_2- and COOH-terminal domains for interactions with the nucleoprotein (N) but only the COOH terminus for interactions with itself. J. Gen. Virol. 76:2863-2867, 1995.

173. O'Neill, R.E., Jaskunas, R., Blobel, G., Palese, P., and Moroianu, J. Nuclear import of influenza virus RNA can be mediated by viral nucleoprotein and transport factors required for protein import. J. Biol. Chem. 270:22701-22704, 1995.

174. Roizman, B. and Palese, P. "Multiplication of Viruses: An Overview" In: *Fields Virology,* Third Edition, edited by B.N. Fields, D.M. Knipe, P.M. Howley, et al., 101-111. Philadelphia: Lippincott-Raven Press, 1996.

175. Zheng, H., Palese, P. and García-Sastre, A. Nonconserved nucleotides at the 3' and 5' ends of an influenza A virus RNA play an important role in viral RNA replication. Virology, 217:242-251, 1996.

176. Pleschka, S. Jaskunas, S.R., Engelhardt, O.G., Zürcher, T., Palese, P. and García-Sastre, A. A plasmid-based reverse genetics system for influenza A virus. J Virol. 70:4188-92, 1996.

177. Wolff, T., O'Neill, R.E., and Palese, P. Interaction cloning of NS1-I, a human protein that binds to the non-structural NS1 proteins of influenza A and B viruses. J Virol. 70:5363-72, 1996.

178. Murata, K., García-Sastre, A., Tsuji, M., Rodrigues, M., Rodriguez, D., Rodriguez, J.R., Nussenzweig, R.S., Palese, P., Esteban, M. and Zavala, F. Characterization of *in vivo* primary and secondary $CD8^+$ T cell responses induced by recombinant influenza and vaccinia viruses. Cellular Immunology 173:96-107, 1996.

179. Muster, T., Ferko, B., Grassauer, A., Klima, A., Katinger, D., Purtscher, M., Katinger, H., Engelhardt, O.G., García-Sastre, A. and Palese, P. "Long-lasting systemic and mucosal humoral immune responses against the HIV-1 gp41-specific epitope ELDKWA induced by a chimeric influenza virus". *In Vaccines 96,* edited by Brown, F. et al., 305-309. Cold SpringHarbor: Cold Spring Harbor Laboratory Press, 1996.

180. Palese, P., Zheng, H., Engelhardt, O.G., Pleschka, S. and García-Sastre, A. Negative-strand RNA viruses: Genetic engineering and applications. Proc. Natl. Acad. USA., 93:11354-11358, 1996.

181. Wang, P., Palese, P. and O'Neill, R.E. The NPI-1/NPI-3 (karyopherin alpha) binding site on the influenza A virus nucleoprotein (NP) is a nonconventional nuclear localization signal. J Virol. 71:1850-6, 1997.

182. Palese, P., Wang, P., Wolff, T. and O'Neill R.E. Host-viral protein-protein interactions in influenza virus replication. In: *Molecular Aspects of Host-Pathogen Interactions*, edited by M.A. McCrae, et al. 327-340. Cambridge, UK: Cambridge University Press, 1997.

183. Palese, P., Zavala, F., Muster, T., Nussenzweig, R.S. and García-Sastre, A. Development of novel influenza virus vaccines and vectors. J. Infect. Dis. 176:S45-49, 1997.

184. Gilleland, Jr., H.E., Gilleland, L.B., Staczek, J., Harty, R.N., García-Sastre, A., Engelhardt, O.G., Palese, P. Chimeric influenza viruses incorporating epitopes of outer membrane protein F as a vaccine against pulmonary infection with *Pseudomonas aeruginosa*. Behring Inst. Mitt. 98:291-301, 1997.

185. Hayden, F. G. and Palese, P. Influenza Virus. In: *Clinical Virology*, edited by D.D. Richman, R. J. Whitley and F. G. Hayden, 911-942. New York: Churchill Livingstone, 1997.

186. O'Neill, R.E., Talon, J. and Palese, P. The influenza virus NEP (NS2 protein) mediates the nuclear export of viral ribonucleoproteins. EMBO J. 17:288-296, 1998.

187. Miyahira, Y., García-Sastre, A., Rodriguez, D., Rodriguez, J.R., Murata, K., Tsuji, M., Palese, P., Esteban, M., Zavala, F. and Nussenzweig, R.S. Recombinant viruses expressing a human malaria antigen can elicit potentially protective immune CD8+ responses in mice. Proc. Natl. Acad. Sci. USA 95:3954-3959, 1998.

188. Staczek, J., Gilleland, Jr., H.E., Gilleland, L.B., Harty, R.N., García-Sastre, A., Engelhardt, O.G., Palese, P. A chimeric influenza virus expressing an epitope of outer membrane protein F of *Pseudomonas aeruginosa* affords protection against challenge with *P. aeruginosa* in a murine model of chronic pulmonary infection. Infect. & Immun. 66:3990-3994, 1998.

189. Wolff, T., O'Neill, R.E. and Palese, P. NS1-binding protein (NS1-BP): A novel human protein that interacts with the influenza A virus non-structural NS1 protein is relocalized in the nucleus of infected cells. J Virol. 72:7170-80, 1998.

190. Fodor, E., Palese, P., Brownlee, G.G. and García-Sastre, A. Attenuation of influenza A virus mRNA levels by promoter mutations. J Virol. **72**:6283-90, 1998.

191. Restifo, N.P., Surman, D.R., Zheng, H., Palese, P., Rosenberg, S.A., and García-Sastre, A. Transfectant influenza A viruses are effective recombinant immunogens in the treatment of experimental cancer. Virology 249:89-97, 1998.

192. Palese, P. RNA virus vectors: Where are we and where do we need to go? Proc. Natl. Acad. Sci. USA 95:12750-12752, 1998.

193. García-Sastre, A., Egorov, A., Matassov, D., Brandt, S., Levy, D.E., Durbin, J. E., Palese, P. and Muster, T. Influenza A virus lacking the NS1 gene replicates in interferon-deficient systems. Virology 252:324-330, 1998.

194. García-Sastre, A., Durbin, R.K., Zheng, H., Palese, P., Gertner, R., Levy, D.E., and Durbin, J.E. The Role of interferon in influenza virus tissue tropism. J Virol. 72:8550-8, 1998.

195. Gonzalo, R.M., Rodríguez, D., García-Sastre, A., Rodríguez, J.R., Palese, P., Esteban, M. Enhanced $CD8^+$ T cell response to HIV-1 env by combined immunization with influenza and

vaccinia virus recombinants. Vaccine 17:887-892, 1999.

196. Harty, R.N., Paragas, J., Sudol, M. and Palese, P. A proline-rich motif within the matrix protein of rhabdoviruses interacts with cellular WW-domains and functions in budding. J Virol. 73:2921-9, 1999.

197. Craven, R.C., Harty, R.N., Paragas, J., Palese, P., and Wills, J.W. Late domain function identified in the vesicular stomatitis virus M protein by use of rhabdovirus-retrovirus chimeras. Journal of Virology 73:3359-3365, 1999.

198. Zheng, H., Lee, H. A., Palese, P. and García-Sastre, A. Influenza A virus RNA polymerase has the ability to stutter at the polyadenylation site of a viral RNA template during RNA replication. J Virol. 73:5240-3, 1999.

199. Palese, P., Muster, T., Zheng, H., O'Neill, R., and García-Sastre, A. Learning from our foes: a novel vaccine concept for influenza virus. Arch. Virol. 15(Suppl):131-138, 1999.

200. Basler, C.F., García-Sastre, A., and Palese, P. Mutation of neuraminidase cysteine residues yields temperature-sensitive influenza viruses. J Virol. 73:8095-103, 1999.

201. Fodor, E., Devenish, L.J., Palese, P., Brownlee, G.G. and García-Sastre, A. Rescue of influenza A virus from recombinant DNA. J Virol. 73:9679-82, 1999.

202. Gilleland, Jr., H.E., Gilleland, L.B., Staczek, J., Harty, R.N., García-Sastre, A., Palese, P., Brennan, F.R., Hamilton, W.D.O., Bendahmane, M. and Beachy, R.N. Chimeric animal and plant viruses expressing epitopes of outer membrane protein F as a+ combined vaccine against *Pseudomonas aeruginosa* lung infection. FEMS Immunol. & Medical Microbiol. 27**:**291-297, 2000.

203. Solorzano, A., Zheng, H., Fodor, E., Brownlee, G.G., Palese, P. and García-Sastre, A. Reduced levels of neuraminidase of influenza A viruses correlate with attenuated phenotypes in mice. J. Gen. Virol. 81:737-742**,** 2000.

204. Talon, J., Salvatore, M., O'Neill, R.E., Nakaya, Y., Zheng, H., Muster, T., García-Sastre, A., and Palese, P. Influenza A and B viruses expressing altered NS1 proteins: A novel vaccine approach. Proc. Natl. Acad. Sci. USA, 97:4309-4314, 2000.

205. Bergmann, M., García-Sastre, A., Carnero, E., Pehamberger, H., Wolff, K., Palese, P. and Muster, T. Influenza Virus NS1 Protein Counteracts PKR-Mediated Inhibition of Replication. J Virol. 74:6203-6**,** 2000.

206. Talon, J., Horvath, C., Polley, R., Basler, C., Muster, T., Palese, P. and García-Sastre, A. Activation of interferon regulatory factor 3 (IRF-3) is inhibited by the influenza A viral NS1 protein. J Virol. 74:7989-96, 2000.

207. Basler, C.F., Wang, X., Mühlberger, E., Volchkov, V., Paragas, J., Klenk, H-D., García-Sastre, A. and Palese, P. The Ebola virus VP35 protein functions as a type I IFN antagonist. Proc. Natl. Acad. Sci. USA, 97:12289-12294, 2000.

208. Wang, X., Li, M., Zheng, H., Muster, T., Palese, P., Beg, A.A., García-Sastre, A. Influenza A virus NS1 protein prevents activation of NF-kappaB and induction of alpha/beta interferon. J

Virol. 74:11566-11573, 2000.

209. Zheng, H., Palese, P. and García-Sastre, A. Antitumor Properties of Influenza Virus Vectors. Cancer Research 60:6972-6976, 2000.

210. Basler, C.F., Reid, A.H., Dybing, J.K., Janczewski, T.A., Fanning, T.G., Zheng, H., Salvatore, M., Perdue, M.L., Swayne, D.E., García-Sastre, A., Palese, P., and Taubenberger, J.K. Sequence of the 1918 pandemic influenza virus non-structural gene (NS) segment and characterization of recombinant viruses bearing the 1918 NS genes. Proc. Natl. Acad. Sci. USA, 98:2746-2751, 2001

211. Momose, F., Basler, C.F., O'Neill, R.E., Iwamatsu, A., Palese, P. and Nagata, K. Cellular splicing factor RAF-2p48/NPI-5/BAT1/UAP56 interacts with the influenza virus nucleoprotein and enhances viral RNA synthesis. J Virol. 75:1899–1908, 2001

212. Paragas, J., Talon, J., O'Neill, R.E., Anderson, D.K., García-Sastre, A. and Palese, P. Influenza B and C virus NEP (NS2) proteins possess nuclear export activities. J Virol. 75:7375-83, 2001.

213. Nakaya, T., Cros, J., Park, M-S, Nakaya, Y., Zheng, H., Sagrera, A., Villar, E., García-Sastre, A., Palese, P. Recombinant Newcastle disease virus as a vaccine vector. J Virol., 75:11868-73, 2001.

214. Schickli, J.H.. Flandorfer, A., Nakaya, T., Martinez-Sobrido, García-Sastre, A., and Palese, P. Plasmid-only rescue of influenza A virus vaccine candidates. *Phil. Trans. Royal Society London. B,* 356:1965-1973, 2001.

215. Bergmann, M., Romirer, I., Sachet, M., Fleischhacker, R., García-Sastre, A., Palese, P., Wolff, K., Pehamberger, H., Jakesz, R. and Muster, T. A genetically engineered influenza A virus with *ras*-dependent oncolytic properties. Cancer Research, 61:8188-8193, 2001.

216. Chen, W., Calvo, P.A., Malide, D., Gibbs, J., Schubert, U., Bacik, I., Basta, S., O'Neill, R., Schickli, J., Palese, P., Henklein, P., Bennink, J.R., Yewdell, J.W. A novel influenza A virus mitochondrial protein that induces cell death. Nature Medicine, **7**:1306-1312, 2001.

217. Salvatore, M., Basler, C.F., Parisien, J-P., Horvath, C.M., Bourmakina, S., Zheng, H., Muster, T., Palese, P. and García-Sastre, A. Effects of influenza A virus NS1 protein on protein expression: the NS1 protein enhances translation and is not required for shutoff of host protein synthesis. J Virol., 76:1206-12, 2002.

218. Mora, R., Rodriguez-Boulan, E., Palese, P., and García-Sastre, A. Apical budding of a recombinant influenza A virus expressing a hemagglutinin protein with a basolateral localization signal. J Virol. 76:3544-53, 2002.

219. Palese P, García-Sastre, A. New directions in vaccine research. J Clin Invest., 109:1517-8, 2002.

220. Palese P, García-Sastre, A. Influenza vaccines: present and future. J Clin Invest., 110:9-13, 2002.

221. Geiss GK, Salvatore M, Tumpey TM, Carter VS, Wang X, Basler CF, Taubenberger JK, Bumgarner RE, Palese P, Katze MG, García-Sastre, A. Cellular transcriptional profiling in influenza A virus-infected lung epithelial cells: The role of the nonstructural NS1 protein in the evasion of the host innate defense and its potential contribution to pandemic influenza. Proc Natl Acad Sci U S A., 99:10736-10741, 2002.

222. Palese, P., Basler, C.F. and García-Sastre, A. The makings of a killer. News & Views. Nature Medicine, 8:927-928, 2002

223. Tumpey, T.M., García-Sastre, A., Mikulasova, A., Taubenberger, J.K., Swayne, D.E., Palese, P. and Basler, C.F. Existing antivirals are effective against influenza viruses with genes from the 1918 pandemic virus. Proc. Natl. Acad. Sci. U.S.A., 99:13849-13854, 2002.

224. Wang, X., Basler, C.F., Williams, B.R.G., Silverman, R.H., Palese, P., and García-Sastre, A. Functional replacement of the carboxy-terminal two-thirds of the influenza A virus NS1 protein with short heterologous dimerization domains. J Virol., 76:12951-62, 2002.

225. Park, M.-S., Shaw, M.L., Mu□oz-Jordan, J., Cros, J.F., Nakaya, T., Bouvier, N., Palese, P., García-Sastre, A., and Basler, C.F. Newcastle Disease Virus (NDV)-based assay demonstrates interferon-antagonist activity for the NDV V protein and the Nipah virus V, W, and C proteins. J Virol., **77:**1501-11, 2003.

226. Basler, C.F., Mikulasova, A., Martinez-Sobrido, L., Paragas, J., Muhlberger, E., Bray, M., Klenk, H.D., Palese, P., García-Sastre, A. The Ebola virus VP35 protein inhibits activation of interferon regulatory factor 3. J Virol., **77**:7945-56, 2003.

227. Efferson, C.L., Schickli, J., Ko, B.K., Kawano, K., Mouzi, S., Palese, P., García-Sastre, A., Ioannides, C.G.. Activation of tumor antigen-specific cytotoxic T lymphocytes (CTLs) by human dendritic cells infected with an attenuated influenza A virus expressing a CTL epitope derived from the HER-2/neu proto-oncogene. J Virol., **77**:7411-7424, 2003.

228. Park, M.-S., García-Sastre, A., Cros, J.F., Basler, C.F. and Palese, P. Newcastle disease virus V protein is a determinant of host range restriction. J Virol., **77**:9522-32, 2003.

229. Flandorfer, A., García-Sastre, A., Basler, C.F. and Palese, P. Chimeric influenza A viruses with a functional influenza B virus neuraminidase or hemagglutinin. J Virol., **77**:9116-23, 2003.

230. Cros, J.F., Palese, P. Trafficking of viral genomic RNA into and out of the nucleus: influenza, Thogoto and Borna disease viruses. (Review) Virus Research, 95:3-12, 2003.

231. Gonzalez-Aseguinolaza, G., Nakaya, Y., Molano, Al, Dy, E., Esteban, M., Rodriguez, D., Rodriguez, J. R., Palese, P., García-Sastre, A., Nussenzweig, R.S. Induction of protective immunity against malaria by prime/boost immunization with recombinant cold-adapted influenza and modified vaccinia Ankara viruses expressing a $CD8^+$ T cell epitope derived from the circumsporozoite protein of *Plasmodium yoelii*. J Virol., **77**:11859-66, 2003.

232. Swayne, D.E., Suarez, D.L., Schultz-Cherry, S., Tumpey, T.M., King, D.J., Nakaya, T., Palese, P., García-Sastre, A. Recombinant paramyxovirus type 1-avian influenza-H7 virus as a vaccine for protection of chickens against influenza and Newcastle, disease. Avian Dis., 47(3 Suppl):1047-1050, 2003.

233. Stevens, J., Corper, A.L., Basler, C.F., Taubenberger, J.K., Palese, P., Wilson, I.A. Structure of the uncleaved human H1 hemagglutinin from the extinct 1918 influenza virus. Science, 303:1866-1870, 2004.

234. Tumpey, T.M., García-Sastre, A., Taubenberger, J.K., Palese, P., Swayne, D.E., and Basler, C.F. Pathogenecity and immunogenicity of influenza viruses with genes from the 1918 pandemic

virus. PNAS, 101:3166-3171, 2004.

235. Li, W.-X., Li, H., Lu, R., Li, F., Dus, M., Atkinson, P., Brydon, E.W.A., Johnson, K.L., García-Sastre, A., Ball, L.A., Palese, P., and Ding, S.-W. Interferon antagonist proteins of influenza and vaccinia virus are suppressors of RNA silencing. PNAS, 101:1350-1355, 2004.

236. Shaw, M.L., García-Sastre, A., Palese, P. and Basler, C.F. Nipah virus V and W proteins have a common STAT1-binding domain yet inhibit STAT1 activation from the cytoplasmic and nuclear compartments respectively. J Virol., 78:5633-41, 2004.

237. Nakaya, Y., Nakaya, T., Park, M.-S., Cros, J, Imanishi, J, Palese, P, García-Sastre, A. Induction of cellular immune responses to simian immunodeficiency virus gag by two recombinant negative-strand RNA virus vectors. J Virol., 78:9366-9375. 2004.

238. Palese, P. Influenza: old and new threats. Nature Medicine, 10:S82-S87, 2004.

239. Cros, J.F., García -Sastre, A., and Palese, P. An unconventional NLS is critical for the nuclear import of the influenza A virus nucleoprotein and ribonucleoprotein. Traffic, 6:1-9, 2005.

240. Basler, C.F., García-Sastre, A., Palese, P. A novel paramyxovirus? Emerg Infect Dis., 11:108-112, 2005.

241. Quinlivan, M., Zamarin, D., García-Sastre, A., Cullinane, A., Chambers, T., and Palese, P. Attenuation of equine influenza viruses through truncations of the NS1 protein. J Virol., 79:8431-9, 2005.

242. Shaw, M.L., Cardenas, W.B., Zamarin, D., Palese, P. and Basler, C.F. Nuclear localization of the Nipah virus W protein allows for inhibition of both virus and TLR3-triggered signaling pathways. J Virol. 79:6078-88, 2005.

243. Efferson, C.L., Kawano K., Tsuda, N., Palese, P., García-Sastre, A., Ioannides, C.G. Stimulation of human T cells by an influenza A vector expressing a CTL epitope from the HER-2/neu protooncogene results in higher numbers of antigen-specific TCRhi cells than stimulation with peptide. Divergent roles of IL-2 and IL-15. Anticancer Res. 25:715-724, 2005.

244. Glaser, L., Stevens, J., Zamarin, D., Wilson, I.A., García -Sastre, A., Tumpey, T.M., Basler, C.F., Taubenberger, J.K., Palese, P. A single amino Acid substitution in 1918 influenza virus hemagglutinin changes receptor binding specificity. J Virol. 79:11533-11536, 2005.

245. Tumpey, T.M., García-Sastre, A., Taubenberger, J.K., Palese, P., Swayne, D.E., Pantin-Jackwood, M.J., Schultz-Cherry, S., Solórzano, A., Van Rooijen, N., Katz, J.M., and Basler, C.F. Pathogenicity of influenza viruses with genes from the 1918 pandemic virus: Functional roles of alveolar macrophages and neutrophils in limiting virus replication and mortality in mice. J Virol. 79:14933-44, 2005.

246. Tumpey, T.M., Basler, C.F., Aguilar, P.V., Zeng, H., Solórzano, A., Swayne, D.E., Cox, N.J., Katz, J.M., Taubenberger, J.K., Palese, P. and García-Sastre, A. Characterization of the reconstructed 1918 Spanish influenza pandemic virus. Science, 310:77-80, 2005.
Selected as the LANCET Paper of the Year 2005.

247. Zamarin, D., García-Sastre, A., Xiao, X., Wang, R., Palese, P. Influenza virus PB1-F2 protein

induces cell death through mitochondrial ANT3 and VDAC1. PLoS Pathogens, 1:40-54, 2005.

248. Stevens J, Blixt O, Glaser L, Taubenberger JK, Palese P, Paulson JC, Wilson IA. Glycan microarray analysis of the hemagglutinins from modern and pandemic influenza viruses reveals different receptor specificities. J. Mol. Biol. 355:1143-1155, 2005.

249. Ugietseme, J.U., He, Q., Eko, F.O., Martinez-Sobrido, L., Palese, P., García-Sastre, A., and Black, C.M. Development of vaccines to prevent chlamydial STDs. Official Publication of the Society for Mucosal Immunology. Mucosal Immunology Update. 13**:**11-16, 2005

250. Kopecky-Bromberg, S.A., Martinez-Sobrido, L., and Palese, P. 7a protein of severe acute respiratory syndrome coronavirus inhibits cellular protein synthesis and activates p38 mitogen-activated protein kinase. J Virol. 80:785-93, 2006.

251. Palese, P. Making better influenza virus vaccines? Emerg. Infect. Dis. 12:61-65, 2006.

252. Palese, P, Tumpey, T.M., García-Sastre, A. What can we learn from reconstructing the extinct 1918 pandemic influenza virus? Immunity. 24:121-124, 2006.

253. Glaser, L. , Zamarin, D., Acland, H.M., Spackman, E., Palese, P., García-Sastre, A., Tewari, D. Sequence analysis and receptor specificity of the hemagglutinin of a recent influenza H2N2 virus isolated from chicken in North America. Glycoconj. J. 23:93-99, 2006.

254. Park, M.-S., Steel, J., García-Sastre, A., Swayne, D., and Palese, P. Engineered viral vaccine constructs with dual specificity: Avian influenza and Newcastle disease. PNAS. 103:8203-8208, 2006.

255. Lowen, A.C., Mubareka, S., Tumpey, T.M., García-Sastre, A., Palese, P. The guinea pig as a transmission model for human influenza viruses. PNAS. 103:9988-9992, 2006.

256. Zamarin, D., Ortigoza, M.B., and Palese, P. Influenza A virus PB1-F2 protein contributes to viral pathogenesis in mice. J Virol. 80:7976-7983, 2006.

257. Kash, J.C., Tumpey, T.M., Proll, S.C., Carter, V., Perwitasari, O., Thomas, M.J., Basler, C.F., Palese, P., Taubenberger, J.K., García-Sastre, A., Swayne, D.E., Katze, M.G. Genomic analysis of increased host immune and cell death responses induced by 1918 influenza virus. Nature. 443:578-581, 2006.

258. Kopecky-Bromberg, S.A., Martinez-Sobrido, L., Frieman, M., Baric, R.A., Palese, P. Severe acute respiratory syndrome coronavirus open reading frame (ORF) 3b, ORF 6, and nucleocapsid proteins function as interferon antagonists. J Virol. 81:548-557, 2007. PMID: 17108024

259. Tumpey, T.M., Maines, T.R., Van Hoeven, N., Glaser, L., Solórzano, A., Pappas, C., Cox, N.J., Swayne, D.E., Palese, P., Katz, J.M., García-Sastre, A. A two amino acid substitution in the 1918 influenza virus hemagglutinin abolishes transmission of the pandemic virus. Science. 315:655-659, 2007. PMID: 17272724

260. Glaser, L., Conenello, G., Paulson, J., Palese, P. Effective replication of human influenza viruses in mice lacking a major α2,6 sialyltransferase. Virus Res., 126:9-18, 2007. PMID: 17313986

261. He, Q., Martinez-Sobrido, L., Eko, F.O., Palese, P., García-Sastre, A., Lyn, D., Okenu, D.,

Bandea, C., Ananaba, G.A., Black, C.M., Igietseme, J.U. Live-attenuated influenza viruses as delivery vectors for chlamydia vaccines. Immunology. 122:28-37, 2007. PMID: 17451464

262. Marsh, G.A., Hatami, R., Palese, P. Specific residues of the influenza A virus HA vRNA are important for efficient packaging into budding virions. J Virol. 81:9727-9736, 2007. PMID: 17634232

263. Frieman, M., Yount, B., Heise, M., Kopecky-Bromberg, S.A., Palese, P. and Baric, R.A. SARS CoV ORF6 antagonizes STAT1 function by sequestering nuclear import factors on the rER/Golgi membrane. J Virol. 81:9812-9824, 2007. PMID: 17596301

264. Conenello, G.M., Zamarin, D., Perrone, L.A., Tumpey, T., Palese, P. A single mutation in the PB1-F2 of H5N1 and 1918 Influenza A viruses contributes to increased virulence. PLoS Pathogens, 3:1414-1421, 2007. PMID: 17922571

265. Conenello, G.M. and Palese, P. Influenza A virus PB1-F2: A small protein with a big punch. Cell Host Microbe. 2:207-209, 2007. PMID: 18005736

266. Ahmed, R., Oldstone, M.B.A., Palese, P. Protective immunity and susceptibility to infectious diseases: lessons from the 1918 influenza pandemic. Nature Immunol. 8:1188-1193, 2007. PMID: 17952044

267. Lowen, A.C., and Palese, P. Influenza virus transmission: Basic science and implications for the use of antiviral drugs during a pandemic. Infectious Disorders – Drug Targets. 7:318-328**,** 2007. PMID: 18220963

268. Lowen, A.C., Mubareka, S., Steel, J., Palese, P. Influenza virus transmission is dependent on relative humidity and temperature. PloS Pathogens, 3:1470-1476, 2007. PMID: 17953482

269. Legastelois, L., Fraysse, S., Serraille, C., Devard, N., García-Sastre, A., Palese, P., Tumpey, T.M., Maines, T.R., Katz, J.M., Meric, C., Whitaker, C.W., Vogel, F.R. and Moste, C. Preparation of genetically engineered A/H5N1 and A/H7N1 pandemic vaccine viruses by reverse genetics in a mixture of Vero and chicken embryo cells. Influenza and Other Respiratory Viruses. 1:95-104, 2007. PMID: 19453414

270. Steel, J., Burmakina, S.V., Thomas, C., Spackman, E., García-Sastre, A., Swayne, D.E., Palese. P. A combination in-ovo vaccine for avian influenza virus and Newcastle disease virus. Vaccine. 26:522-531, 2008. PMID: 18093698

271. Marsh, G.A., Rabadán, R., Levine, A.J., Palese, P. Highly conserved regions of the influenza A virus polymerase gene segments are critical for efficient vRNA packaging. J Virol. 82:2295-2304, 2008. PMID: 18094182

272. Mubareka, S., and Palese, P. Human genes and influenza. Editorial Commentary. JID. 197**:**1-3, 2008. PMID: 18171276

273. Gao, Q., Park, M.-S., Palese, P. Expression of transgenes from Newcastle disease virus with a segmented genome. J Virol. 82:2692-2698, 2008. PMID: 18199643

274. Pappas, C., Aguilar, P.V., Basler, C.F. Solórzano, Zeng, H., Perrone, L.A., Palese, P., García-Sastre, A., Katz, J.M., Tumpey, T.M. Single gene reassortants identify a critical role for PB1, HA

and NA in the high virulence of the 1918 pandemic influenza virus. PNAS. 105:3064-3069, 2008. PMID: 18287069

275. Lowen, A.C., Steel, J., Mubareka, S., and Palese, P. High temperature (30°C) blocks aerosol but not contact transmission of influenza virus. J Virol. 82:5650-5652, 2008. PMID: 18367530

276. Kashyap, A.K., Steel, J., Oner, A.F., Dillon, M.A., Swale, R.E., Wall, K.M., Perry, K.J., Faynboym, A., Ilhan, M., Horowitz, M., Horowitz, L., Palese, P., Bhatt, R.R., Lerner, R.A. Combinatorial antibody libraries from survivors of the Turkish H5N1 avian influenza outbreak reveal virus neutralization strategies. PNAS. 105:5986-5991, 2008. PMID: 18413603

277. Gao, Q, Brydon, E.W., Palese, P. A seven-segmented influenza A virus expressing the influenza C glycoprotein HEF. J Virol., 82:6419-6426, 2008. PMID: 18448539

278. Shaw, M.L., Stone, K.L., Colangelo, C.M., Gulcicek, E.E., Palese, P. Cellular proteins in influenza virus particles. PLoS Pathog. 4:e1000085, 2008. PMID: 18535660

279. Hoffmann, H.H., Palese, P., Shaw, M.L. Modulation of influenza virus replication by alteration of sodium ion transport and protein kinase C activity. Antiviral Res. 80:124-134, 2008. PMID: 18585796

280. Hai, R., Martínez-Sobrido, L., Fraser, K.A., Ayllon, J., García-Sastre, A., Palese, P. Influenza B virus NS1-truncated mutants: live-attenuated vaccine approach. J Virol. 80:10580-10590, 2008. PMID: 18768976

281. Bouvier, N.M., Lowen, A.C., Palese, P. Oseltamivir-resistant influenza A viruses are transmitted efficiently among guinea pigs by direct contact but not by aerosol. J Virol. 80:10052-10058, 2008. PMID: 18684820

282. Steel, J., Lowen, A.C., Pena, L., Angel, M., Solórzano, Albrecht, R., Perez, D.R., García-Sastre, A., and Palese, P. Live attenuated influenza viruses containing NS1 truncations as vaccine candidates against H5N1 highly pathogenic avian influenza. J Virol. 83:1742-1753, 2009. PMID: 19073731

283. Steel, J., Lowen, A.C., Mubareka, S., Palese, P. Transmission of influenza virus in a mammalian host is increased by PB2 amino acids 627K or 627E/701N. PLoS Pathog. 2009 Jan;5(1):e1000252. PMID: 19119420

284. Lowen, A.C., Steel, J., Mubareka, S., Carnero, E., García-Sastre, A., Palese, P. Blocking inter-host transmission of influenza virus by vaccination in the guinea pig model. J. Virol. 83:2803-2818, 2009. PMID: 19153237

285. Chambers, T.M., Quinlivan, M., Sturgill, T., Cullinanem, A., Horohov, D.W., Zamarin, D., Arkins, S., García-Sastre, A., Palese, P. Influenza A viruses with truncated NS1 as modified live virus vaccines: pilot studies of safety and efficacy in horses. Equine Vet J., 41:87-92, 2009. PMID: 19301588

286. Wang, T.T., Palese, P. Universal epitopes of influenza virus hemagglutinins? Nat Struct Mol Biol., 16:233-234, 2009. PMID: 19234464

287. Abbadessa G, Accolla R, Aiuti F, Albini A, Aldovini A, Palese, P., et al. Unsung hero Robert C.

Gallo. Science (New York, N.Y.). 2009; 323(5911):206-7. PMID:19131607

288. Kulkarni, S., Volchkova, V., Basler, C.F., Palese, P., Volchkov, V.E., Shaw, M.L. Nipah virus edits its P gene at high frequency to express the V and W proteins. J Virol. 83:3982-3987, 2009. PMID: 19211754

289. Zamarin, D., Martínez-Sobrido, L., Kelly, K., Mansour, M., Sheng, G., Vigil, A., García-Sastre, A., Palese, P., Fong, Y. Enhancement of oncolytic properties of recombinant newcastle disease virus through antagonism of cellular innate immune responses. Mol Ther. 17:697-706, 2009. PMID: 19209145

290. Mubareka, S., Lowen, A.C., Steel, J., Coates, A.L., García-Sastre, A., Palese, P. Transmission of influenza virus via aerosols and fomites in the guinea pig Model. J Infect Dis. 199:858-865, 2009. PMID: 19434931

291. Kopecky-Bromberg, S.A., Fraser, K.A., Pica, N., Carnero, E., Moran, T.M., Franck, R.W., Tsuji, M., Palese, P. Alpha-C-galactosylceramide as an adjuvant for a live attenuated influenza virus vaccine. Vaccine. 27:3766-3774, 2009. PMID: 19464560

292. Wang, T.T., Palese, P. Unraveling the mystery of swine influenza virus. Cell. 137:983 985, 2009. PMID: 19524497

293. Gao, Q. and Palese, P. Rewiring the RNAs of influenza virus to prevent reassortment. PNAS. 106:15891-15896, 2009. PMID: 19805230

294. Kopecky-Bromberg, S.A., Palese, P. Recombinant vectors as influenza vaccines. Curr. Top. Microbiol. Immunol. 333:243-267, 2009. PMID: 19768410

295. Steel, J., Staeheli, P., Mubareka, S., García-Sastre, A., Palese, P., Lowen, A.C. Transmission of pandemic H1N1 influenza virus and impact of prior exposure to seasonal strains or interferon treatment. J Virol. 84:21-26, 2009. PMID: 19828604

296. Martínez-Sobrido, L., Cadagan, R., Steel, J., Basler, C.F., Palese, P., Moran, T.M., García-Sastre, A. Hemagglutinin-pseudotyped GFP-expressing influenza viruses for the detection of influenza virus neutralizing antibodies. J Virol. 84:2157-63, 2010. PMID: 19939917

297. Wong, J., Schulman, A., Kelly, K., Zamarin, D., Palese, P., Fong, Y. Detection of free peritoneal cancer cells in gastric cancer using cancer-specific Newcastle disease virus. J. Gastrointest Surg. 14:7-14, 2010. PMID: 19902312

298. Lowen, A., Palese, P. Transmission of influenza virus in temperate zones is predominantly by aerosol, in the tropics by contact: A hypothesis. PLoS Curr. Influenza. 2009 Aug 17:RRN1002. PMID: 20025197

299. König, R., Stertz, S., Zhou, Y., Inoue, A., Hoffmann, H-Heinrich, Bhattacharyya, S., Alamares, J.G., Tscherne, D.M., Ortigoza, M.B., Liang, Y., Gao, Q., Andrews, S.E., Bandyopadhyay, S., De Jesus, P., Tu, B.P., Pache, L., Shih, C., Orth, A., Bonamy, G., Miraglia, L., Ideker, T., García-Sastre, A., Young, J.A., Palese, P., Shaw, M.L., Chanda, S.K. Human host factors required for influenza virus replication. Nature. 463:813-817, 2010. PMID: 20027183

300. Manicassamy, B., Medina, R.A, Hai, R., Tsibane, T., Stertz, S., Nistal-Villán, E., Palese, P.,

Basler, C.F., García-Sastre, A. Protection of mice against lethal challenge with 2009 H1N1 influenza A virus by 1918-like and classical swine H1N1 based vaccines. PLoS Pathog. 2010 Jan 29;6(1):e1000745. PMID: 20126449

301. Hai, R., Schmolke, M., Varga, Z.T., Manicassamy, B., Wang, T.T., Belser, J.A., Pearce, M.B., García-Sastre, A., Tumpey, T.M., Palese, P. PB1-F2 expression by the 2009 pandemic H1N1 influenza virus has minimal impact on virulence in animal models. J Virol. 84:4442-4450, 2010. PMID: 20181699

302. Wang, T.T., Tan, G.S., Hai, R., Pica, N., Petersen, E., Moran, T.M., Palese, P. Broadly Protective Monoclonal Antibodies against H3 Influenza Viruses following Sequential Immunization with Different Hemagglutinins. PLoS Pathog. 2010 Feb 26;6(2):e1000796. PMID: 20195520

303. Gao, Q., Lowen, A.C., Wang, T.T., Palese, P. A nine-segmented influenza A virus carrying H1 and H3 subtype hemagglutinins. J Virol. 4:8062-8071, 2010. PMID: 20519387

304. Kashyap, A.K., Steel, J., Rubrum, A., Estelles, A., Briante, R., Ilyushina, N.A., Xu, L., Swale, R.E., Faynboym, A.M., Foreman, P.K., Horowitz, M., Horowitz, L., Webby, R., Palese, P., Lerner, R.A., Bhatt, R.R. Protection from the 2009 H1N1 pandemic influenza by an antibody from combinatorial survivor-based libraries. PLoS Pathog. 2010 Jul 8:6(7):e1000990. PMID: 20628565

305. Steel, J., Lowen, A.C., Wang, T.T., Palese, P., et al. Influenza virus vaccine based on the conserved hemagglutinin stalk domain. mBio. 1(1): pii: e00018-10, 2010. PMID: 20689752

306. Seibert, C.W., Kaminski, M., Philipp, J., Rubbenstroth, D., Albrecht, R.A., Schwalm, F., Stertz, S., Medina, R.A., Kochs, G., García-Sastre, A., Staeheli, P., Palese, P. Oseltamivir-resistant variants of the 2009 pandemic H1N1 influenza A virus are not attenuated in the guinea pig and ferret transmission models. J Virol. 84:11219-11226, 2010. PMID: 20739532

307. Wang, T. T., Tan, G.S., Hai, R., Pica, N., Ngai, L., Ekiert, D.C., Wilson, I.A., García-Sastre, A., Moran, T.M., Palese, P. Vaccination with a synthetic peptide from the influenza virus hemagglutinin provides protection against viral subtypes. PNAS. 107:18979-18984, 2010. PMID: 20956293

308. Medina, R.A., Manicassamy, B., Stertz, S., Seibert, C.W., Hai, R., Belshe, R.B., Frey, S.E., Basler, C.F., Palese, P., García-Sastre, A. Pandemic 2009 H1N1 vaccine protects against 1918 Spanish influenza virus. Nat Commun. 1:1-6, 2010. PMID: 20975689

309. Li, P., Chen, C.H., Li, S., Givi, B., Yu, Z., Zamarin, D., Palese, P., Fong, Y., Wong, R.J. Therapeutic effects of a fusogenic newcastle disease virus in treating head and neck cancer. Head Neck. 33:1394-9, 2011. PMID: 21928411

310. Conenello, G.M., Tisoncik, J.R., Rosenzweig, E., Varga, Z.T., Palese, P., Katze, M.G. A Single N66S Mutation in the PB1-F2 Protein of Influenza A Virus Increases Virulence by Inhibiting the Early Interferon Response In Vivo. J Virol. 85:652-662, 2011. PMID: 21084483

311. Steel, J., Palese, P., Lowen, A.C.Transmission of a 2009 pandemic influenza virus shows similar

sensitivity to temperature and humidity as an H3N2 seasonal strain. J Virol. 85:1400-1402, 2010. PMID: 21084485

312. Maamary, J., Array, F., Gao, Q., García-Sastre, A., Steinman, R.M., Palese, P., Nchinda, G. Newcastle disease virus expressing a dendritic cell-targeted HIV gag protein induces a potent gag specific immune response in mice. J Virol. 85:2235-2246, 2010. PMID: 21159873

313. Yondola, M.A., Fernandes, F., Belicha-Villanueva, A., Uccelini, M., Gao, Q., Carter, C., Palese, P. The budding capability of the influenza virus neuraminidase can be modulated by Tetherin. J Virol. 85:2480-2491, 2011. PMID: 21209114

314. Hoffmann, H.H., Kunz, A., Simon, V.A., Palese, P., Shaw, M.L. Broad-spectrum antiviral that interferes with de novo pyrimidine biosynthesis. Proc. Natl. Acad. Sci. U. S. A., 108:5777-82, 2011. PMID: 21436031

315. Mansour, M., Palese, P., Zamarin, D. Oncolytic specificity of Newcastle Disease Virus is mediated by selectivity for apoptosis-resistant cells. J Virol. 85:6015-6023, 2011. PMID: 21471241

316. Hai, R., García-Sastre, A., Swayne, D.E., Palese, P. A reassortment-incompetent live attenuated influenza virus vaccine for protection against pandemic virus strains. J Virol. 85:6832-6843, 2011. PMID: 21543486

317. Varga, Z.T., Ramos, I., Hai, R., Schmolke, M., García-Sastre, A., Fernandez-Sesma, A., Palese, P. The Influenza Virus Protein PB1-F2 Inhibits the Induction of Type I Interferon at the Level of the MAVS Adaptor Protein. PLoS Pathog. Jun;7:e1002067, 2011. PMID: 21695240

318. Wang, T., Palese, P. Biochemistry. Catching a moving target. Science. 333:834-835, 2011. PMID: 21836007

319. Palese, P. and Wang, T. Why do influenza virus subtypes die out? A hypothesis. mBio. 2:e00150-11, 2011. PMID: 21878571

320. Chou, Y-Y., Albrecht, R.A., Pica, N., Lowen, A.C., Richt, J.A., García-Sastre, A., Palese, P. and Hai, R. The M segment of the 2009 new pandemic H1N1 influenza virus is critical for its high transmission efficiency in the guinea pig model. J Virol. 85:11235-11241, 2011. PMID: 21880744

321. Pica, N., Iyer, A., Ramos, I., Bouvier, N.M., Fernandez-Sesma, A., García-Sastre, A., Lowen, A.C., Palese, P., Steel, J. The DBA.2 mouse is susceptible to disease following infection with a broad, but limited, range of influenza A and B viruses. J Virol. 85:12825-12829, 2011. PMID: 21917963

322. Varga, Z.T., Palese, P. The influenza A virus protein PB1-F2: Killing two birds with one stone? Virulence. 2:542-6, 2011. PMID: 21971186

323. Palese, P., Wang, T. H5N1 influenza viruses: Facts, not fear. PNAS. 109:2211-13, 2012. PMID: 22308474

324. Palese P. Don't censor life-saving science. Nature. 2012; 481(7380):115. PMID: 22237069

325. Fouchier RA, García-Sastre A, Kawaoka Y, Barclay WS, Bouvier NM, …Palese, P., et al. Pause on avian flu transmission research. Science (New York, N.Y.). 2012; 335(6067):400-1. NIHMSID: NIHMS494780 PMID: 22282787

326. Pica N, Hai R, Krammer F, Wang TT, Maamary J, Eggink D, Tan GS, Krause JC, Moran T, Stein CR, Banach D, Wrammert J, Belshe RB, García-Sastre A, Palese P. Hemagglutinin stalk antibodies elicited by the 2009 pandemic influenza virus as a mechanism for the extinction of seasonal H1N1 viruses. Proc Natl Acad Sci USA. 109:2573-8, 2012. PMID: 22308500

327. Seibert CW, Rahmat S, Krammer F, Palese P, Bouvier NM. Efficient transmission of pandemic H1N1 influenza viruses with high-level oseltamivir resistance. J Virol. 86:5386-89, 2012. PMID: 22345446

328. Wang T, Parides MK, Palese P. Seroevidence for H5N1 influenza infections in humans: meta-analysis. Science. 335:1463, 2012. PMID: 22362880

329. Zamarin D, Palese P. Oncolytic Newcastle disease virus for cancer therapy: old challenges and new directions. Future Microbiol. 7:347-67, 2012. PMID: 22393889

330. Hai R, Krammer F, Tan GS, Pica N, Eggink D, Maamary J, Margine I, Albrecht RA, Palese P. Influenza viruses expressing chimeric hemagglutinins: Globular head and stalk domains derived from different subtypes. J Virol. 86:5774-81, 2012. PMID: 22398287

331. Maamary J, Pica N, Belicha-Villanueva A, Chou YY, Krammer F, Gao Q, García-Sastre A, Palese P. Attenuated influenza virus construct with enhanced hemagglutinin protein expression. J Virol. 86:5782-90, 2012. PMID: 22398291

332. Pica N, Chou YY, Bouvier NM, Palese P. Transmission of influenza B viruses in the Guinea pig. J Virol. 86:4279-87, 2012. PMID: 22301149

333. Tan GS, Krammer F, Eggink D, Kongchanagul A, Moran TM, Palese P. A pan-H1 anti-hemagglutinin monoclonal antibody with potent broad-spectrum efficacy in vivo. J Virol. 86:6179-88, 2012. PMID: 22491456

334. Gao Q, Chou YY, Doğanay S, Vafabakhsh R, Ha T, Palese P. The influenza A virus PB2, PA, NP, and M segments play a pivotal role during genome packaging. J Virol. 86:7043-51, 2012. PMID: 22532680

335. Chou YY, Vafabakhsh R, Doğanay S, Gao Q, Ha T, Palese P. One influenza virus particle packages eight unique viral RNAs as shown by FISH analysis. Proc Natl Acad Sci U S A. 109:9101-6, 2012. PMID: 22547828

336. Ortigoza MB, Dibben O, Maamary J, Martinez-Gil L, Leyva-Grado VH, Abreu P Jr, Ayllon J, Palese P, Shaw ML. A novel small molecule inhibitor of influenza A viruses that targets polymerase function and indirectly induces interferon. PLoS Pathog. 8(4):e1002668, 2012. PMID: 22577360

337. Varga ZT, Grant A, Manicassamy B, Palese P. Influenza Virus Protein PB1-F2 Inhibits the Induction of Type I Interferon by Binding to MAVS and Decreasing Mitochondrial Membrane Potential. J Virol. 86:8359-66, 2012. PMID: 22674996

338. Leyva-Grado VH, Mubareka S, Krammer F, Cárdenas WB, Palese P. Influenza virus infection in guinea pigs raised as livestock, Ecuador. Emerg Infect Dis. 18:1135-8, 2012. PMID: 22710350

339. Pica N, Langlois RA, Krammer F, Margine I, Palese P. NS1-truncated live attenuated virus vaccine provides robust protection to aged mice from viral challenge. J Virol. 86:10293-10301, 2012. PMID: 22787224

340. Krammer F, Pica N, Hai R, Tan GS, Palese P. Hemagglutinin stalk reactive antibodies are boosted following sequential infection with seasonal and pandemic H1N1 influenza virus in mice. J Virol. 86:10302-07, 2012. PMID: 22787225

341. Goff PH, Gao Q, Palese P. A majority of infectious Newcastle disease virus particles packages a single genome while a minority is multiploid. J Virol. 86:10852-56, 2012. PMID: 22787227

342. Krammer F, Margine I, Tan GS, Pica N, Krause JC, Palese P. A carboxy-terminal trimerization domain stabilizes conformational epitopes on the stalk domain of soluble recombinant hemagglutinin substrates. PLoS One. 2012;7(8):e43603. PMID: 22928001

343. Ekiert DC, Kashyap AK, Steel J, Rubrum A, Bhabha G, Khayat R, Lee JH, Dillon MA, O'Neil RE, Faynboym AM, Horowitz M, Horowitz L, Ward AB, Palese P, Webby R, Lerner RA, Bhatt RR, Wilson IA. Cross-neutralization of influenza A viruses mediated by a single antibody loop. Nature. 489:526-32, 2012. PMID: 2298299

344. Miller MS, Tsibane T, Krammer F, Hai R, Rahmat S, Basler CF, Palese P. 1976 and 2009 H1N1 Influenza Virus Vaccines Boost Anti-Hemagglutinin Stalk Antibodies in Humans. J Infect Dis. 207:98-105, 2013. PMID: 23087428

345. Fouchier RA, García-Sastre A, Kawaoka Y, Barclay WS, Bouvier NM, …Palese, P., et al. Transmission studies resume for avian flu. Science (New York, N.Y.). 2013; 339(6119):520-1. PMID: 23345603

346. Martínez-Gil L, Goff PH, Hai R, García-Sastre A, Shaw ML,…Palese, P. et al. A Sendai virus-derived RNA agonist of RIG-I as a virus vaccine adjuvant. Journal of virology. 2013; 87(3):1290-300. PMID: 23175362

347. Martínez-Gil L, Ayllon J, Ortigoza MB, García-Sastre A, Shaw ML, Palese P. Identification of small molecules with type I interferon inducing properties by high-throughput screening. PLoS One. 2012;7:e49049. PMID: 23145065

348. Pica N, Palese P. Toward a universal influenza virus vaccine: prospects and challenges. Annu Rev Med. 64:189-202, 2013. PMID: 23327522

349. Margine I, Hai R, Albrecht RA, Obermoser G, Harrod AC, Banchereau J, Palucka K, García-Sastre A, Palese P, Treanor JJ, Krammer F. H3N2 influenza virus infection induces broadly

reactive hemagglutinin stalk antibodies in humans and mice. J Virol. 87:4728-37, 2013. PMID: 23408625

350. Alamares-Sapuay JG, Martinez-Gil L, Stertz S, Miller MS, Shaw ML, Palese P. Serum- and glucocorticoid-regulated kinase 1 is required for nuclear export of the ribonucleoprotein of influenza a virus. J Virol. 87:6020-6, 2013. PMID: 23487453

351. Krammer F, Pica N, Hai R, Margine I, Palese P. Chimeric hemagglutinin influenza virus vaccine constructs elicit broadly-protective stalk-specific antibodies. J Virol. 87:6542-50, 2013. PMID: 23576508

352. Chou YY, Heaton NS, Gao Q, Palese P, Singer R, Lionnet T. Colocalization of Different Influenza Viral RNA Segments in the Cytoplasm before Viral Budding as Shown by Single-molecule Sensitivity FISH Analysis. PLoS Pathog. 9(7). doi: 10.1371, 2013. PMID: 23671419

353. Seibert CW, Rahmat S, Krause JC, Eggink D, Albrecht RA, Goff PH, Krammer F, Duty JA, Bouvier NM, García-Sastre A, Palese P. Recombinant IgA is sufficient to prevent influenza virus transmission in guinea pigs. J Virol. 87:7793-804, 2013. PMID: 23698296

354. Goff PH, Krammer F, Hai R, Seibert CW, Margine I, García-Sastre A, Palese P. Induction of cross-reactive antibodies to novel H7N9 influenza virus by recombinant Newcastle disease virus expressing a North American lineage H7 subtype hemagglutinin. J Virol. 87:8235-40, 2013. PMID: 23698299

355. Heaton NS, Leyva-Grado VH, Tan GS, Eggink D, Hai R, Palese P. In vivo bioluminescent imaging of influenza A virus infection and characterization of novel cross-protective monoclonal antibodies. J Virol. 87:8272-81, 2013. PMID: 23698304

356. Martinez-Gil L, Alamares-Sapuay JG, Ramana Reddy MV, Goff PH, Premkumar Reddy E, Palese P. A small molecule multi-kinase inhibitor reduces influenza A virus replication by restricting viral RNA synthesis. Antiviral Res. 100:29-37, 2013. PMID: 23891991

357. Margine I, Krammer F, Hai R, Heaton NS, Tan GS, Andrews SA, Runstadler JA, Wilson PC, Albrecht RA, García-Sastre A, Palese P. Hemagglutinin Stalk-Based Universal Vaccine Constructs Protect Against Group 2 Influenza A Viruses. J Virol. 87:10435-46, 2013. PMID: 23903831

358. Miller MS, Gardner TJ, Krammer F, Aguado LC, Tortorella D, Basler CF, Palese P. Neutralizing Antibodies Against Previously Encountered Influenza Virus Strains Increase over Time: A Longitudinal Analysis. Sci Transl Med. 5:198ra107, 2013. PMID: 23946196

359. Krammer F, Palese P. Influenza virus hemagglutinin stalk-based antibodies and vaccines. Curr Opin Virol. 3:521-30, 2013. PMID: 23978327

360. Eggink D, Goff PH, Palese P. Guiding the immune response against influenza virus hemagglutinin toward the conserved stalk domain by hyper-glycosylation of the globular head domain. J Virol. 2013. PMID: 24155380

361. Goff PH, Eggink D, Seibert CW, Hai R, Martínez-Gil L, Krammer F, Palese P. Adjuvants and immunization strategies to induce influenza virus hemagglutinin stalk antibodies. PLoS One, 2013. doi: 10.1371/journal.pone.0079194. PMID: 24223176

362. Heaton NS, Sachs D, Chen CJ, Hai R, Palese P. Genome-wide mutagenesis of influenza virus reveals unique plasticity of the hemagglutinin and NS1 proteins. Proc Natl Acad Sci U S A. 110:20248-53, 2013. doi: 10.1073/pnas.1320524110. PMID: 24277853

363. Margine I, Palese P, Krammer F. Expression of Functional Recombinant Hemagglutinin and Neuraminidase Proteins from the Novel H7N9 Influenza Virus Using the Baculovirus Expression System. J Vis Exp. 2013. PMID: 24300384

364. Krammer F, Margine I, Hai R, Flood A, Hirsh A, Tsvetnitsky V, Chen D, Palese P. H3 stalk-based chimeric hemagglutinin influenza virus constructs protect mice from H7N9 challenge. J Virol. 2013. PMID: 24307585

365. Hai R, Schmolke M, Leyva-Grado VH, Thangavel RR, Margine I, Jaffe EL, Krammer F, Solórzano A, García-Sastre A, Palese P, Bouvier NM. Influenza A(H7N9) virus gains neuraminidase inhibitor resistance without loss of in vivo virulence or transmissibility. Nat Commun. 4:2854, 2013. PMID: 24326875

366. Krammer F, Palese P. Universal influenza virus vaccines: need for clinical trials. Nat Immunol. 15:3-5, 2013. PMID: 24352315

367. Krammer F, Hai R, Yondola M, Tan GS, Leyva-Grado V, Ryder AB, Miller MS, Rose JK, Palese P, García-Sastre A, Albrecht RA. Assessment of influenza virus hemagglutinin stalk-based immunity in ferrets. J Virol. 2014. PMID: 24403585

368. Dilillo DJ, Tan GS, Palese P, Ravetch JV. Broadly neutralizing hemagglutinin stalk-specific antibodies require FcγR interactions for protection against influenza virus in vivo. Nat Med. 2014. PMID: 24412922

369. Krammer F, Albrecht RA, Tan GS, Margine I, Hai R, Schmolke M, Runstadler J, Andrews SF, Wilson PC, Cox RJ, Treanor JJ, García-Sastre A, Palese P. Divergent H7 immunogens offer protection from H7N9 virus challenge. J Virol. 88:3976-85, 2014. PMID: 2453375

370. Zamarin D, Holmgaard RB, Subudhi SK, Park JS, Mansour M, Palese P, Merghoub T, Wolchok JD, Allison JP. Localized oncolytic virotherapy overcomes systemic tumor resistance to immune checkpoint blockade immunotherapy. Sci Transl Med. 6:226, 2014. PMID: 24598590

371. Miller MS, Palese P. Peering into the crystal ball: influenza pandemics and vaccine efficacy. Cell. 157:294-9, 2014. PMID: 24725400

372. Ellebedy AH, Krammer F, Li GM, Miller MS, Chiu C, Wrammert J, Chang CY, Davis CW, McCausland M, Elbein R, Edupuganti S, Spearman P, Andrews SF, Wilson PC, García-Sastre A, Mulligan MJ, Mehta AK, Palese P, Ahmed R. Induction of broadly cross-reactive antibody responses to the influenza HA stem region following H5N1 vaccination in humans. Proc Natl Acad Sci U S A. 2014 Aug 25. PMID: 25157133

373. Heaton NS, Langlois RA, Sachs D, Lim JK, Palese P, tenOever BR. Long-term survival of influenza virus infected club cells drives immunopathology. J Exp Med. 2014 Aug 25;211(9):1707-14. PMID: 25135297

374. Krammer F, Palese P, Steel J. Advances in Universal Influenza Virus Vaccine Design and Antibody Mediated Therapies Based on Conserved Regions of the Hemagglutinin. Curr Top Microbiol Immunol. 2014 Jul 10. PMID: 25007847

375. Nachbagauer R, Wohlbold TJ, Hirsh A, Hai R, Sjursen H, Palese P, Cox RJ, Krammer F. Induction of Broadly Reactive Anti-Hemagglutinin Stalk Antibodies by an H5N1 Vaccine in Humans. J Virol. 2014 Nov 15;88(22):13260-8. doi: 10.1128/JVI.02133-14. Epub 2014 Sep 10. PMID: 25210189

376. Tan GS, Lee PS, Hoffman RM, Mazel-Sanchez B, Krammer F, Leon PE, Ward AB, Wilson IA, Palese P. Characterization of a broadly neutralizing monoclonal antibody that targets the fusion domain of group 2 influenza a virus hemagglutinin. J Virol. 2014 Dec 1;88(23):13580-92. doi: 10.1128/JVI.02289-14. Epub 2014 Sep 10. PMID: 25210195

377. Riegger D, Hai R, Dornfeld D, Mänz B, Leyva-Grado V, Sánchez-Aparicio MT, Albrecht RA, Palese P, Haller O, Schwemmle M, García-Sastre A, Kochs G, Schmolke M. The nucleoprotein of newly emerged H7N9 influenza A virus harbors a unique motif conferring resistance to antiviral human MxA. J Virol. 2015 Feb;89(4):2241-52. doi: 10.1128/JVI.02406-14. PMID: 25505067

378. Goff PH, Hayashi T, Martínez-Gil L, Corr M, Crain B, Yao S, Cottam HB, Chan M, Ramos I, Eggink D, Heshmati M, Krammer F, Messer K, Pu M, Fernandez-Sesma A, Palese P, Carson DA. Synthetic Toll-Like Receptor 4 (TLR4) and TLR7 Ligands as Influenza Virus Vaccine Adjuvants Induce Rapid, Sustained, and Broadly Protective Responses. J Virol. 2015 Mar 15;89(6):3221-35. doi: 10.1128/JVI.03337-14. PMID: 25568203

379. He W, Mullarkey CE, Duty JA, Moran TM, Palese P, Miller MS. Broadly neutralizing anti-influenza virus antibodies: enhancement of neutralizing potency in polyclonal mixtures and IgA backbones. J Virol. 2015 Apr 1;89(7):3610-8. doi: 10.1128/JVI.03099-14. PMID: 25589655

380. Wohlbold TJ, Nachbagauer R, Margine I, Tan GS, Hirsh A,…Palese, P. et al. Vaccination with soluble headless hemagglutinin protects mice from challenge with divergent influenza viruses. Vaccine. 2015; 33(29):3314-21. PMID: 26026378

381. Henry Dunand CJ, Leon PE, Kaur K, Tan GS, Zheng NY, Andrews S, Huang M, Qu X, Huang Y, Salgado-Ferrer M, Ho IY, Taylor W, Hai R, Wrammert J, Ahmed R, García-Sastre A, Palese P, Krammer F, Wilson PC. Preexisting human antibodies neutralize recently emerged H7N9 influenza strains. J Clin Invest. 2015 Mar 2;125(3):1255-68. doi: 10.1172/JCI74374. PMID: 25689254

382. Krammer F, Palese P. Advances in the development of influenza virus vaccines. Nat Rev Drug Discov. 2015 Feb 27;14(3):167-82. doi: 10.1038/nrd4529. PMID: 25722244

383. Wohlbold TJ, Nachbagauer R, Xu H, Tan GS, Hirsh A, Brokstad KA, Cox RJ, Palese P, Krammer F. Vaccination with Adjuvanted Recombinant Neuraminidase Induces Broad Heterologous, but Not Heterosubtypic, Cross-Protection against Influenza Virus Infection in Mice. MBio. 2015 Mar 10;6(2). pii: e02556-14. doi: 10.1128/mBio.02556-14. PMID: 25759506

384. Fulton BO, Sachs D, Beaty SM, Won ST, Lee B, Palese P, Heaton NS. Mutational Analysis of Measles Virus Suggests Constraints on Antigenic Variation of the Glycoproteins. Cell Rep. 2015 Jun 9;11(9):1331-8. doi: 10.1016/j.celrep.2015.04.054. Epub 2015 May 21. PMID: 26004185

385. Leyva-Grado VH, Tan GS, Leon PE, Yondola M, Palese P. Direct Administration in the Respiratory Tract Improves Efficacy of Broadly Neutralizing Anti-Influenza Virus Monoclonal Antibodies. Antimicrob Agents Chemother. 2015 Jul;59(7):4162-72. doi: 10.1128/AAC.00290-15. Epub 2015 May 4. PMID: 25941218

386. Wang TT, Maamary J, Tan GS, Bournazos S, Davis CW, Krammer F, Schlesinger SJ, Palese P, Ahmed R, Ravetch JV. Anti-HA Glycoforms Drive B Cell Affinity Selection and Determine Influenza Vaccine Efficacy. Cell. 2015 Jul 2;162(1):160-9. doi: 10.1016/j.cell.2015.06.026. PMID: 26140596

387. Kaur K, Zheng NY, Smith K, Huang M, Li L, Pauli NT, Henry Dunand CJ, Lee JH, Morrissey M, Wu Y, Joachims ML, Munroe ME, Lau D, Qu X, Krammer F, Wrammert J, Palese P, Ahmed R, James JA, Wilson PC. High Affinity Antibodies against Influenza Characterize the Plasmablast Response in SLE Patients After Vaccination. PLoS One. 2015 May 7;10(5):e0125618. doi: 10.1371/journal.pone.0125618. eCollection 2015. PMID: 25951191

388. White KM, De Jesus P, Chen Z, Abreu P Jr, Barile E, Mak PA, Anderson P, Nguyen QT, Inoue A, Stertz S, Koenig R, Pellecchia M, Palese P, Kuhen K, García-Sastre A, Chanda SK, Shaw ML. A Potent Anti-influenza Compound Blocks Fusion through Stabilization of the Prefusion Conformation of the Hemagglutinin Protein. ACS Infect Dis. 2015 Feb 13;1(2):98-109. Epub 2014 Dec 15. PMID: 25984567

389. Brennan B, Weber F, Kormelink R, Schnettler E, Bouloy M, Failloux AB, Weaver SC, Fazakerley JK, Fragkoudis R, Harris M, Barr JN, Palese P, García-Sastre A, Dalziel RG, Dutia BM, Lowen AC, Steel J, Randall RE, Paul Duprex W, Rice CM, Tesh RB, Murphy FA, Ebihara H, Vasconcelos PF, Nunes MR, Fooks AR, Smith GL, Goodfellow I, Pappu HR, Lamb RA, Paterson RG, Higgs S, Vanlandingham DL, Dietzgen RG, Stephen Lodmell J, Nichol ST, Daly J, Ullman DE, Plyusnin A, Plyusnina A, Efstathiou S, Hewson R, Tordo N, Cherry S, Boutell C, Hosie MJ, Murcia PR, Neil JC, Palmarini M, Patel AH, Willett BJ, Kohl A, McLauchlan J. In memoriam--Richard M. Elliott (1954-2015). J Gen Virol. 2015 Aug;96(8):1975-8. doi: 10.1099/jgv.0.000241. PMID: 26315040

390. Fulton BO, Palese P, Heaton NS. Replication-Competent Influenza B Reporter Viruses as Tools for Screening Antivirals and Antibodies. J Virol. 2015 Dec 1;89(23):12226-31. doi: 10.1128/JVI.02164-15. Epub 2015 Sep 23. PMID: 26401044

391. Andrews SF, Huang Y, Kaur K, Popova LI, Ho IY, Pauli NT, Henry Dunand CJ, Taylor WM, Lim S, Huang M, Qu X, Lee JH, Salgado-Ferrer M, Krammer F, Palese P, Wrammert J, Ahmed R, Wilson PC. Immune history profoundly affects broadly protective B cell responses to influenza. Sci Transl Med. 2015 Dec 2;7(316):316ra192. doi: 10.1126/scitranslmed.aad0522. PMID: 26631631

392. Ryder AB, Nachbagauer R, Buonocore L, Palese P, Krammer F, Rose JK. Vaccination with VSV-vectored chimeric hemagglutinins protects mice against divergent influenza virus challenge strains. J Virol. 2015 Dec 16. pii: JVI.02598-15. PMID: 26676789

393. Nachbagauer R, Miller MS, Hai R, Ryder AB, Rose JK, Palese P, García-Sastre A, Krammer F, Albrecht RA. Hemagglutinin stalk immunity reduces influenza virus replication and transmission in ferrets. J Virol. 2015 Dec 30. pii: JVI.02481-15. [Epub ahead of print] PMID: 26719251

394. DiLillo DJ, Palese P, Wilson PC, Ravetch JV. Broadly neutralizing anti-influenza antibodies require Fc receptor engagement for in vivo protection. J Clin Invest. 2016 Jan 5. pii: 84428. doi: 10.1172/JCI84428. [Epub ahead of print] PMID: 26731473

395. Chen CJ, Ermler ME, Tan GS, Krammer F, Palese P, Hai R. Influenza A viruses expressing intra- or inter-group chimeric hemagglutinins. J Virol. 2016 Jan 13. pii: JVI.03060-15. [Epub ahead of print] PMID: 26764009

396. Nachbagauer R, Choi A, Izikson R, Cox MM, Palese P, Krammer F. Age Dependence and Isotype Specificity of Influenza Virus Hemagglutinin Stalk-Reactive Antibodies in Humans. MBio. 2016 Jan 19;7(1). pii: e01996-15. doi: 10.1128/mBio.01996-15. PMID: 26787832

397. Heaton NS, Moshkina N, Fenouil R, Gardner TJ, Aguirre S, Shah PS, Zhao N, Manganaro L, Hultquist JF, Noel J, Sachs DH, Hamilton J, Leon PE, Chawdury A, Tripathi S, Melegari C, Campisi L, Hai R, Metreveli G, Gamarnik AV, García-Sastre A, Greenbaum B, Simon V, Fernandez-Sesma A, Krogan NJ, Mulder LC, van Bakel H, Tortorella D, Taunton J, Palese P, Marazzi I. Targeting Viral Proteostasis Limits Influenza Virus, HIV, and Dengue Virus Infection. Immunity. 2016 Jan 19;44(1):46-58. doi: 10.1016/j.immuni.2015.12.017. PMID: 26789921

398. Hamilton JR, Sachs D, Lim JK, Langlois RA, Palese P, Heaton NS. Club cells surviving influenza A virus infection induce temporary nonspecific antiviral immunity. Proc Natl Acad Sci U S A. 2016 Apr 5;113(14):3861-6. doi: 10.1073/pnas.1522376113. Epub 2016 Mar 21. PMID: 27001854

399. Tran EE, Podolsky KA, Bartesaghi A, Kuybeda O, Grandinetti G, Wohlbold TJ, Tan GS, Nachbagauer R, Palese P, Krammer F, Subramaniam S. Cryo-electron Microscopy Structures of Chimeric Hemagglutinin Displayed on a Universal Influenza Vaccine Candidate. MBio. 2016 Mar 22;7(2):e00257. doi: 10.1128/mBio.00257-16. PMID: 27006464

400. Henry Dunand CJ, Leon PE, Huang M, Choi A, Chromikova V, Ho IY, Tan GS, Cruz J, Hirsh A, Zheng NY, Mullarkey CE, Ennis FA, Terajima M, Treanor JJ, Topham DJ, Subbarao K, Palese P, Krammer F, Wilson PC. Both Neutralizing and Non-Neutralizing Human H7N9 Influenza Vaccine-Induced Monoclonal Antibodies Confer Protection. Cell Host Microbe. 2016 Jun 8;19(6):800-13. doi: 10.1016/j.chom.2016.05.014. PMID: 27281570

401. Leon PE, He W, Mullarkey CE, Bailey MJ, Miller MS, Krammer F, Palese P, Tan GS. Optimal activation of Fc-mediated effector functions by influenza virus hemagglutinin antibodies requires two points of contact. Proc Natl Acad Sci U S A. 2016 Sep 19. pii: 201613225. PMID: 27647907

402. He W, Tan GS, Mullarkey CE, Lee AJ, Lam MM, Krammer F, Henry C, Wilson PC, Ashkar AA, Palese P, Miller MS. Epitope specificity plays a critical role in regulating antibody-dependent cell-mediated cytotoxicity against influenza A virus. Proc Natl Acad Sci U S A. 2016 Oct 3. pii: 201609316. PMID: 27698132

403. Mullarkey CE, Bailey MJ, Golubeva DA, Tan GS, Nachbagauer R, He W, Novakowski KE, Bowdish DM, Miller MS, Palese P. Broadly Neutralizing Hemagglutinin Stalk-Specific Antibodies Induce Potent Phagocytosis of Immune Complexes by Neutrophils in an Fc-Dependent Manner. MBio. 2016 Oct 4;7(5). pii: e01624-16. PMID:27703076

404. Palese P. Profile of Charles M. Rice, Ralf F. W. Bartenschlager, and Michael J. Sofia, 2016 Lasker-DeBakey Clinical Medical Research Awardees. Proc Natl Acad Sci U S A. 2016 Nov 18. pii: 201616592. DOI:10.1073/pnas.1616592113. PMID: 27864510

405. Nachbagauer R, Choi A, Hirsh A, Margine I, Iida S, Barrera A, Ferres M, Albrecht RA, García-Sastre A, Bouvier NM, Ito K, Medina RA, Palese P, Krammer F. Defining the antibody cross-reactome directed against the influenza virus surface glycoproteins. Nat Immunol. 2017 Feb 13. Doi: 10.1038/ni.3684. PMID: 28192418

406. Ermler M, Kirkpatrick E, Sun W, Hai R, Amanat F, Chromikova V, Palese P, Krammer F. Chimeric hemagglutinin constructs induce broad protection against influenza B virus challenge in the mouse model. J Virol. 2017 Mar 29. pii: JVI.00286-17. doi: 10.1128/JVI.00286-17. PMID: 28356526

407. Zamarin D, Holmgaard RB, Ricca J, Plitt T, Palese P, Sharma P, Merghoub T, Wolchok JD, Allison JP. Intratumoral modulation of the inducible co-stimulator ICOS by recombinant oncolytic virus promotes systemic anti-tumour immunity. Nat Commun. 2017 Feb 13;8:14340. doi: 10.1038/ncomms14340. PMID: 28194010

408. Leyva-Grado VH, Palese P. Aerosol administration increases the efficacy of oseltamivir for the treatment of mice infected with influenza viruses. Antiviral Res. 2017 Jun;142:12-15. doi: 10.1016/j.antiviral.2017.03.002. Epub 2017 Mar 7. PMID: 28286235

409. Rajendran M, Nachbagauer R, Ermler ME, Bunduc P, Amanat F, Izikson R, Cox M, Palese P, Eichelberger M, Krammer F. Analysis of Anti-Influenza Virus Neuraminidase Antibodies in Children, Adults, and the Elderly by ELISA and Enzyme Inhibition: Evidence for Original Antigenic Sin. MBio. 2017 Mar 21;8(2). pii: e02281-16. doi: 10.1128/mBio.02281-16. PMID: 28325769

410. Fulton BO, Sachs D, Schwarz MC, Palese P, Evans MJ. Transposon Mutagenesis of the Zika Virus Genome Highlights Regions Essential for RNA Replication and Restricted for Immune Evasion. J Virol. 2017 Jul 12;91(15). pii: e00698-17. doi: 10.1128/JVI.00698-17. Print 2017 Aug 1. PMID: 28515302

411. Krammer F, García-Sastre A, Palese P. Is It Possible to Develop a "Universal" Influenza Virus Vaccine? Toward a Universal Influenza Virus Vaccine: Potential Target Antigens and Critical Aspects for Vaccine Development. Cold Spring Harb Perspect Biol. 2017 Jun 29. pii: a028845. doi: 10.1101/cshperspect.a028845. PMID: 28663209

412. Goff PH, Hayashi T, He W, Yao S, Cottam HB, Tan GS, Crain B, Krammer F, Messer K, Pu M, Carson DA, Palese P, Corr M. Synthetic TLR4 and TLR7 ligands work additively via MyD88 to induce protective antiviral immunity in mice. J Virol. 2017 Jul 19. pii: JVI.01050-17. doi: 10.1128/JVI.01050-17. [Epub ahead of print] PubMed PMID: 28724768

413. Wohlbold TJ, Podolsky KA, Chromikova V, Kirkpatrick E, Falconieri V, Meade P, Amanat F, Tan J, tenOever BR, Tan GS, Subramaniam S, Palese P, Krammer F. Broadly protective murine monoclonal antibodies against influenza B virus target highly conserved neuraminidase epitopes. Nat Microbiol. 2017 Aug 21. Doi: 10.1038/s41564-017-0011-8 [Epub ahead of print] PMID: 28827718

414. Maamary J, Wang TT, Tan GS, Palese P, Ravetch JV. Increasing the breadth and potency of response to the seasonal influenza virus vaccine by immune complex immunization. Proc Natl Acad Sci U S A. 2017 Sep 19;114(38):10172-10177. doi: 10.1073/pnas.1707950114. Epub 2017 Sep 5. PMID: 28874545

415. Jacobsen H, Rajendran M, Choi A, Sjursen H, Brokstad KA, Cox RJ, Palese P, Krammer F, Nachbagauer R. Influenza Virus Hemagglutinin Stalk-Specific Antibodies in Human Serum are a Surrogate Marker for In Vivo Protection in a Serum Transfer Mouse Challenge Model. MBio. 2017 Sep 19;8(5). pii: e01463-17. doi: 10.1128/mBio.01463-17. PubMed PMID: 28928215; PubMed Central PMCID: PMC5605943

416. He W, Chen CJ, Mullarkey CE, Hamilton JR, Wong CK, Leon PE, Uccellini MB, Chromikova V, Henry C, Hoffman KW, Lim JK, Wilson PC, Miller MS, Krammer F, Palese P, Tan GS. Alveolar macrophages are critical for broadly-reactive antibody-mediated protection against influenza A virus in mice. Nat Commun. 2017 Oct 10; 8(1):846. doi: 10.1038/s41467-017-00928-3. PMID: 29018261

417. Palese P. Influenza: A broadly protective antibody. Nature. 2017 Nov 15;551(7680):310-311. doi: 10.1038/551310a. PMID: 29144466

418. Nachbagauer R, Liu WC, Choi A, Wohlbold TJ, Atlas T, Rajendran M, Solórzano A, Berlanda-Scorza F, García-Sastre A, Palese P, Albrecht RA, Krammer F. A universal influenza virus vaccine candidate confers protection against pandemic H1N1 infection in preclinical ferret studies. NPJ Vaccines. 2017 Sep 14;2:26. doi: 10.1038/s41541-017-0026-4. eCollection 2017. PMID: 29263881

419. Hamilton JR, Vijayakumar G, Palese P. A Recombinant Antibody-Expressing Influenza Virus Delays Tumor Growth in a Mouse Model. Cell Rep. 2018 Jan 2;22(1):1-7. doi: 10.1016/j.celrep.2017.10.025. PMID: 29298413

420. Rajendran M, Sun W, Comella P, Nachbagauer R, Wohlbold TJ, Amanat F, Kirkpatrick E, Palese P, Krammer F. An immune-assay to quantify influenza virus hemagglutinin with correctly folded stalk domains in vaccine preparations. PLoS One. 2018 Apr 4;13(4):e0194830. doi: 10.1371/journal.pone.0194830. eCollection 2018.

421. Nachbagauer R, Palese P. Development of next generation hemagglutinin-based broadly protective influenza virus vaccines. Curr Opin Immunol. 2018 Apr 19;53:51-57. doi: 10.1016/j.coi.2018.04.001. [Epub ahead of print]

422. Fulton BO, Sun W, Heaton NS, Palese P. The influenza B virus hemagglutinin head domain is less tolerant to transposon mutagenesis than that of the influenza A virus. J Virol. 2018 Jun 13. pii: JVI.00754-18. doi: 10.1128/JVI.00754-18. [Epub ahead of print]

423. Krammer F, Smith GJD, Fouchier RAM, Peiris M, Kedzierska K, Doherty PC, Palese P, Shaw ML, Treanor J, Webster RG, Garcia-Sastre A. Influenza. Nat Rev Dis Primers. 2018 Jun 28;4(1):3. doi: 10.1038/s47572-018-0002-y. Review. No abstract available. PMID: 29955068

424. Coughlan L, Palese P. Overcoming Barriers in the Path to a Universal Influenza Virus Vaccine. Cell Host Microbe. 2018 Jul 11;24(1):18-24. doi: 10.1016/j.chom.2018.06.016. PMID: 30001520

425. Broecker F, Liu STH, Sun W, Krammer F, Simon V, Palese P. Immunodominance of Antigenic Site B in the Hemagglutinin of the Current H3N2 Influenza Virus in Humans and Mice. J Virol. 2018 Sep 26; 92(20). pii: e01100-18. doi: 10.1128/JVI.01100-18. Print 2018 Oct 15. PMID: 30045991

426. Liu ST, Behzadi MA, Sun W, Freyn AW, Liu WC, Broecker F, Albrecht RA, Bouvier NM, Simon V, Nachbagauer R, Krammer F, Palese P. Antigenic sites in influenza H1 hemagglutinin display species-specific immunodominance. J Clin Invest. 2018 Sept 6. pii: 122895. doi: 10.1172/JCI122895. [Epub ahead of print] PMID: 30188868

427. Sun W, Kang DS, Zheng A, Liu STH, Broecker F, Simon V, Krammer F, Palese P. Antibody responses towards the major antigenic sites of influenza B virus hemagglutinin in mice, ferrets and humans. J Virol. 2018 Oct 31. pii: JVI.01673-18. doi: 10.1128/JVI.01673-18. [Epub ahead of print] PMID: 30381487

428. Bailey MJ, Duehr J, Dulin H, Broecker F, Brown JA, Arumemi FO, Bermúdez González MC, Leyva-Grado VH, Evans MJ, Simon V, Lim JK, Krammer F, Hai R, Palese P, Tan GS. Human antibodies targeting Zika virus NS1 provide protection against disease in a mouse model. Nat Commun. 2018 Nov 1;9(1):4560. doi: 10.1038/s41467-018-07008-0. PMID: 30385750

429. Krammer F, Palese P. Universal influenza virus vaccines that target the conserved hemagglutinin stalk and conserved sites in the head domain. J Infect Dis. 2019 Jan 31. doi: 10.1093/infdis/jiy711. [Epub ahead of print]. PMID: 30715353

430. Sun W, Kirkpatrick E, Ermler M, Nachbagauer R, Broecker F, Krammer F, Palese P. Development of Influenza B Universal Vaccine Candidates Using the "Mosaic" Hemagglutinin Approach. J Virol. 2019 May 29; 93(12). pii: e00333-19. doi: 10.1128/JVI.00333-19. Print 2019 Jun 15. PubMed PMID: 30944178

431. Choi A, Bouzya B, Cortés Franco KD, Stadlbauer D, Rajabhathor A, Rouxel RN, Mainil R, Van der Wielen M, Palese P, García-Sastre A, Innis BL, Krammer F, Schotsaert M, Mallett CP, Nachbagauer R. Chimeric Hemagglutinin-Based Influenza Virus Vaccines in Mice. Immunohorizons. 2019 Apr 1;3(4) :133-148. doi: 10.4049/immunohorizons.1900022. PubMed PMID: 31032479; PubMed Central PMCID: PMC6485968.

432. Bailey MJ, Broecker F, Freyn A, Choi A, Brown JA, Fedorova N, Simon V, Lim JK, Evans MJ, García-Sastre A, Palese P, Tan GS. Human monoclonal antibodies potently neutralize Zika Virus and select for escape mutations on the lateral ridge of the envelope protein. J Virol. 2019 May 1. pii: JVI.00405-19. doi: 10.1128/JVI.00405-19. [Epub ahead of print] PubMed PMID: 31043537.

433. Liu WC, Nachbagauer R, Stadlbauer D, Solórzano A, Berlanda-Scorza F, García-Sastre A, Palese P, Krammer F, Albrecht RA. Sequential Immunization with Live-Attenuated Chimeric Hemagglutinin-Based Vaccines Confers Heterosubtypic Immunity Against Influenza A Viruses in a Preclinical Ferret Model. Front Immunol. 2019 Apr 10;10:756. doi:10.3389/fimmu.2019.00756. eCollection 2019. PubMed PMID: 31105689; PubMed Central PMCID: PMC6499175.

434. Broecker F, Liu STH, Suntronwong N, Sun W, Bailey MJ, Nachbagauer R, Krammer F, Palese P. A mosaic hemagglutinin-based influenza virus vaccine candidate protects mice from challenge with divergent H3N2 strains. NPJ Vaccines. 2019 Jul 19;4:31. doi: 10.1038/s41541-019-0126-4. PMID: 31341648

435. Broecker F, Zheng A, Suntronwong N, Sun W, Bailey MJ, Krammer F, Palese P. Extending the Stalk Enhances Immunogenicity of the Influenza Virus Neuraminidase. J Virol. 2019 Aug 28;93(18). pii: e00840-19. doi: 10.1128/JVI.00840-19. Print 2019 Sep 15. PMID: 31375573

436. Sun W, Zheng A, Miller R, Krammer F, Palese P. An Inactivated Influenza Virus Vaccine Approach to Targeting the Conserved Hemagglutinin Stalk and M2e Domains. Vaccines (Basel). 2019 Sep 18;7(3). pii: E117. doi: 10.3390/vaccines7030117. PMID: 31540436.

437. Nachbagauer R, Palese P. Is a Universal Influenza Virus Vaccine Possible? Annu Rev Med. 2019 Oct 10. doi: 10.1146/annurev-med-120617-041310. [Epub ahead of print] PMID: 31600454

438. Bernstein DI, Guptill J, Naficy A, Nachbagauer R, Berlanda-Scorza F, Feser J, Wilson PC, Solórzano A, Van der Wielen M, Walter EB, Albrecht RA, Buschle KN, Chen YQ, Claeys C, Dickey M, Dugan HL, Ermler ME, Freeman D, Gao M, Gast C, Guthmiller JJ, Hai R, Henry C, Lan LY, McNeal M, Palm AE, Shaw DG, Stamper CT, Sun W, Sutton V, Tepora ME, Wahid R, Wenzel H, Wohlbold TJ, Innis BL, García-Sastre A, Palese P, Krammer F. Immunogenicity of chimeric haemagglutinin-based, universal influenza virus vaccine candidates: interim results of a randomised, placebo-controlled, phase 1 clinical trial. Lancet Infect Dis. 2019 Oct 17. pii: S1473-3099(19)30393-7. doi: 10.1016/S1473-3099(19)30393-7. [Epub ahead of print] PMID: 31630990

439. Vijayakumar G, Palese P, Goff PH. Oncolytic Newcastle disease virus expressing a checkpoint inhibitor as a radioenhancing agent for murine melanoma. EBioMedicine. 2019 Nov;49:96-105. doi: 10.1016/j.ebiom.2019.10.032. Epub 2019 Oct 29. PubMed PMID: 31676387.

440. Vijayakumar G, McCroskery S, Palese P. Engineering Newcastle disease virus as oncolytic vector for intratumoral delivery of immune checkpoint inhibitors and immunocytokines. J Virol. 2019 Nov 6. pii: JVI.01677-19. doi: 10.1128/JVI.01677-19. [Epub ahead of print] PubMed PMID: 31694938.

441. Nachbagauer R, Salaun B, Stadlbauer D, Behzadi MA, Friel D, Rajabhathor A, Choi A, Albrecht RA, Debois M, García-Sastre A, Rouxel RN, Sun W, Palese P, Mallett CP, Innis BL, Krammer F, Claeys C. Pandemic influenza virus vaccines boost hemagglutinin stalk-specific antibody responses in primed adult and pediatric cohorts. NPJ Vaccines. 2019 Dec 6;4:51. doi: 10.1038/s41541-019-0147-z. eCollection 2019. PMID: 31839997

442. Mullokandov G, Vijayakumar G, Leon P, Henry C, Wilson PC, Krammer F, Palese P, Brown BD. High-complexity extra-cellular barcoding using a viral hemagglutinin. Proc Natl Acad Sci U S A. 2020;117(6):2767–2769. doi:10.1073/pnas.1919182117. PMID: 31988118.

443. Calisher C, Carroll D, Colwell R, et al. Statement in support of the scientists, public health professionals, and medical professionals of China combatting COVID-19 [published online ahead of print, 2020 Feb 19]. Lancet. 2020;S0140-6736(20)30418-9. doi:10.1016/S0140-6736(20)30418-9. PMID: 32087122

444. Freyn AW, Ramos da Silva J, Rosado VC, Bliss CM, Pine M, Mui BL, Tam YK, Madden TD, de Souza Ferreira LC, Weissman D, Krammer F, Coughlan L, Palese P, Pardi N, Nachbagauer R. A Multi-Targeting, Nucleoside-Modified mRNA Influenza Virus Vaccine Provides Broad Protection in Mice. Mol Ther. 2020 Apr 19:S1525-0016(20)30199-4. doi: 10.1016/j.ymthe.2020.04.018. Online ahead of print. PMID: 32359470

445. Zheng A, Sun W, Xiong X, Freyn AW, Peukes J, Strohmeier S, Nachbagauer R, Briggs JAG, Krammer F, Palese P. Enhancing Neuraminidase Immunogenicity of Influenza A Viruses by Rewiring RNA Packaging Signals. J Virol. 2020 Jun 3:JVI.00742-20. doi: 10.1128/JVI.00742-20. Online ahead of print. PMID: 32493826

446. Behzadi MA, Choi A, Duehr J, Feyznezhad R, Upadhyay C, Schotsaert M, Palese P, Nachbagauer R. A cross-reactive mouse monoclonal antibody against rhinovirus mediates phagocytosis in vitro. *Sci Rep*. 2020;10(1):9750. Published 2020 Jun 16. doi:10.1038/s41598-020-66600-x. PMID:32546721

447. Kennedy RB, Ovsyannikova IG, Palese P, Poland GA. Current Challenges in Vaccinology. Front Immunol. 2020 Jun 25;11:1181. doi: 10.3389/fimmu.2020.01181. eCollection 2020. PMID: 32670279

448. Sun W, Leist SR, McCroskery S, Liu Y, Slamanig S, Oliva J, Amanat F, Schaefer A, Dinnon K, Garcia-Sastre A, Krammer F, Baric RS, Palese P. Newcastle disease virus (NDV) expressing the spike protein of SARS-CoV-2 as vaccine candidate. bioRxiv. 2020 Jul 26:2020.07.26.221861. doi: 10.1101/2020.07.26.221861. Preprint. PMID:32743571.

449. Sun W, McCroskery S, Liu WC, Leist SR, Liu Y, Albrecht RA, Slamanig S, Oliva J, Amanat F, Schaefer A, Dinnon KH, Innis BL, Garcia-Sastre A, Krammer F, Baric RS, Palese P. A Newcastle disease virus (NDV) expressing membrane-anchored spike as a cost-effective inactivated SARS-CoV-2 vaccine. bioRxiv. 2020 Jul 31:2020.07.30.229120. doi: 10.1101/2020.07.30.229120. Preprint. PMID: 32766572

450. Guthmiller JJ, Lan LY, Fernández-Quintero ML, Han J, Utset HA, Bitar DJ, Hamel NJ, Stovicek O, Li L, Tepora M, Henry C, Neu KE, Dugan HL, Borowska MT, Chen YQ, Liu STH, Stamper CT, Zheng NY, Huang M, Palm AE, García-Sastre A, Nachbagauer R, Palese P, Coughlan L, Krammer F, Ward AB, Liedl KR, Wilson PC. Polyreactive Broadly Neutralizing B cells Are Selected to Provide Defense against Pandemic Threat Influenza Viruses. Immunity. 2020 Oct 17:S1074-7613(20)30446-5. doi: 10.1016/j.immuni.2020.10.005. Online ahead of print. PMID: 33096040

451. Sun W, Leist SR, McCroskery S, Liu Y, Slamanig S, Oliva J, Amanat F, Schäfer A, Dinnon KH 3rd, García-Sastre A, Krammer F, Baric RS, Palese P. Newcastle disease virus (NDV) expressing the spike protein of SARS-CoV-2 as a live virus vaccine candidate. EBioMedicine. 2020 Dec;62:103132. doi: 10.106/j.ebiom.2020.103132. Epub 2020 Nov 21. PMID: 33232870

452. Nachbagauer R, Feser J, Naficy A, Bernstein DI, Guptill J, Walter EB, Berlanda-Scorza F, Stadlbauer D, Wilson PC, Aydillo T, Behzadi MA, Bhavsar D, Bliss C, Capuano C, Carreño JM, Chromikova V, Claeys C, Coughlan L, Freyn AW, Gast C, Javier A, Jiang K, Mariottini C, McMahon M, McNeal M, Solórzano A, Strohmeier S, Sun W, Van der Wielen M, Innis BL, García-Sastre A, Palese P, Krammer F. A chimeric hemagglutinin-based universal influenza virus vaccine approach induces broad and long-lasting immunity in a randomized, placebo-controlled phase I trial. Nat Med. 2021 Jan;27(1):106-114. doi: 10.1038/s41591-020-1118-7. Epub 2020 Dec 7. PMID: 33288923

453. Carreño JM, Strohmeier S, Kirkpatrick Roubidoux E, Hai R, Palese P, Krammer F. H1 Hemagglutinin Priming Provides Long-Lasting Heterosubtypic Immunity against H5N1 Challenge in the Mouse Model. mBio. 2020 Dec 15;11(6):e02090-20. doi: 10.1128/mBio.02090-20. PMID: 33323511

454. Sun W, McCroskery S, Liu WC, Leist SR, Liu Y, Albrecht RA, Slamanig S, Oliva J, Amanat F, Schäfer A, Dinnon KH 3rd, Innis BL, García-Sastre A, Krammer F, Baric RS, Palese P. A Newcastle Disease Virus (NDV) Expressing a Membrane-Anchored Spike as a Cost-Effective Inactivated SARS-CoV-2 Vaccine. Vaccines (Basel). 2020 Dec 17;8(4):771. doi: 10.3390/vaccines8040771. PMID: 33348607

455. Liu WC, Nachbagauer R, Stadlbauer D, Strohmeier S, Solórzano A, Berlanda-Scorza F, Innis BL, García-Sastre A, Palese P, Krammer F, Albrecht RA. Chimeric Hemagglutinin-Based Live-Attenuated Vaccines Confer Durable Protective Immunity against Influenza A Viruses in a Preclinical Ferret Model. Vaccines (Basel). 2021 Jan 11;9(1):E40. doi: 10.3390/vaccines9010040. PMID: 33440898

456. Freyn AW, Han J, Guthmiller JJ, Bailey MJ, Neu K, Turner HL, Rosado VC, Chromikova V, Huang M, Strohmeier S, Liu STH, Simon V, Krammer F, Ward AB, Palese P, Wilson PC, Nachbagauer R. Influenza hemagglutinin-specific IgA Fc-effector functionality is restricted to stalk epitopes. Proc Natl Acad Sci U S A. 2021 Feb 23;118(8):e2018102118. doi: 10.1073/pnas.2018102118. PMID: 33593910.

457. Rathnasinghe R, Salvatore M, Zheng H, Jangra S, Kehrer T, Mena I, Schotsaert M, Muster T, Palese P, García-Sastre A. Prophylactic protection against respiratory viruses conferred by a prototype live attenuated influenza virus vaccine. bioRxiv. 2021 Apr 28:2021.04.28.441797. doi: 10.1101/2021.04.28.441797. Preprint. PMID: 33948589

458. Guthmiller JJ, Han J, Li L, Freyn AW, Liu STH, Stovicek I, Stamper CT, Dugan HL, Tepora ME, Utset HA, Bitar DJ, Hamel NJ, Changrob S, Zheng NY, Huang M, Krammer F, Nachbagauer R, Palese P, Wilson PC. First exposure to the pandemic H1N1 virus induced broadly neutralizing antibodies targeting hemagglutinin head epitopes. Sci Transl Med. 2021 Jun 2;13(596):eabg4535. doi: 10.1126/scitranslmed.abg4535.PMID: 34078743

459. Guthmiller JJ, Utset HA, Henry C, Li L, Zheng NY, Sun W, Costa Vieira M, Zost S, Huang M, Hensley SE, Cobey S, Palese P, Wilson PC. An Egg-Derived Sulfated *N-Acetyllactosamine* Glycan Is an Antigenic Decoy of Influenza Virus Vaccines. mBio. 2021 Jun 15:e0083821. doi: 10.1128/mBio.00838-21. Online ahead of print.PMID: 34126773

BOOKS AND TEXTBOOK CHAPTERS

1. Palese, P., Roizman, B., eds. *Genetic Variation of Viruses*. New York: The New York Academy of Sciences; 1980.

2. Palese, P., Kingsbury, D.W., eds. *Genetics of Influenza Viruses*. New York: Springer-Verlag; 1983.

3. Roizman, B., Palese, P. Multiplication of Viruses: An Overview. In: Fields, B.N., Knipe, D.M., Howley, P.M., et al., eds. *Fields Virology*. 3rd ed. Philadelphia: Lippincott-Raven Press; 1996:101-11.

4. Palese, P., Roizman, B., eds. *Genetic Engineering of Viruses and Viral Vectors*. Washington, D.C.: National Academy of Sciences; 1997.

5. Hayden, F.G., Palese, P. Influenza Virus. In: Richman, D.D., Whitley, R.J., Hayden, F.G., eds., *Clinical Virology*, New York: Churchill Livingstone; 1997:911-42.

6. Basler, C., Palese, P. Influenza Viruses. In: *Encyclopedia of Microbiology*. Vol 2. 2nd ed. Burlington, MA: Academic Press; 2000:797-812.

7. Knipe, D.M., Samuel, C.E., Palese, P. Virus-Host Cell Interactions. In: Knipe, D.M., Howley, P.M., et al., eds. *Fields Virology*. 4th ed. Philadelphia: Lippincott-Raven Press; 2001:133-70.

8. Basler, C., Palese, P. Influenza Viruses. In: *Wiley Encyclopedia of Molecular Medicine*. 5 Vol Set. Hoboken, NJ: John Wiley & Sons, Inc.; 2002:1741-47.

9. Hayden, F.G., Palese, P. Influenza Virus. In: Richman, D.D., Whitley, R.J., Hayden, F.G., eds. *Clinical Virology*. 2nd ed. Washington, DC: ASM Press; 2002:891-920.

10. Basler, C., Palese, P. Modulation of Innate Immunity by Filoviruses. In: Klenk, H., Feldmann, H., eds. *Ebola and Marburg Viruses, Molecular and Cellular Biology*. Chap 11. Abingdon, Oxfordshire, UK: BIOS Scientific Publishers; 2004:305-50.

11. Zamarin, D. and Palese, P. Influenza Virus: Lessons Learned. In: Kowalski, J.B., Morrissey, R.F., eds. *International Kilmer Conference Proceedings*. Laval, Canada: Polyscience Publications Inc; 2004:308-319.

12. Shaw, M.L., Palese, P. Viruses and the Innate Immune System. In: Palese, P., ed. *Modulation of Host Gene Expression and Innate Immunity by Viruses.* The Netherlands: Springer; 2005:1-18.

13. Palese, P., ed. *Modulation of Host Gene Expression and Innate Immunity by Viruses.* The Netherlands: Springer; 2005.

14. Taubenberger, J.K., Palese, P. The Origin and Virulence of the 1918 Spanish Influenza Virus. In: Kawaoka, Y., ed. *Influenza Virology Current Topics*. Wymondham, UK: Caister Academic Press; 2006.

15. Marsh, G. A. and Palese, P. Reverse Genetics of Influenza Viruses. In: Friedmann, T. and Rossi, J., eds. *Gene Transfer: Delivery and Expression of DNA and RNA,* Cold Spring Harbor Laboratory Press, 2006: chapter 33.

16. Palese, P. Influenza and Its Viruses. In: Engleberg, N.C., DiRita, V., Dermody, T.S., eds. *Schaechter's Mechanisms of Microbial Disease,* 4th ed. Philadelphia: Lippincott Williams & Wilkins, 2007: chapter 36.

17. Palese, P. and Shaw, M.L. *Orthomyxoviridae:* The Viruses and their Replication. In: Knipe, D.M., Howley, P.M. et al., eds. *Fields Virology,* 5th ed. Philadelphia: Lippincott-Raven Press; 2007:1647-1689.

18. Mubareka, S. and Palese, P. Influenza Virus: The biology of a changing virus. In: Rappuoli, R. and Del Giudice, G., eds. Influenza Vaccines for the Future: Birkhäuser Verlag Basel/Switzerland; 2008:9-30.

19. Shaw, M.L. and Palese, P. Orthomyxoviruses: Molecular Biology. In: Mahy, B.W.J. and Van Regenmortel, M.H.V., eds. Encyclopedia of Virology, 3rd ed. Oxford: Elsevier; 2008:483-489.

20. Lowen, A., Mubareka, S., Steel, J., García-Sastre, A., Palese, P. Plenary Sessions: Molecular Determinants of Virulence and Transmissibility. Humidity and temperatuve affect influenza virus transmission: Studies in the guinea pig model. In: Katz, J.M., ed. Options for the Control of Influenza: International Medical Press/Toronto, Ontario, Canada; 2008:47-49.

21. Bouvier, N.M., Palese, P. In: Vaccine 26S. The biology of influenza viruses. Elsevier; 2008:D49-D53.

22. Hayden, F.G., Palese, P. Influenza Virus. In: Richman, D.D., Whitley, R.J., Hayden, F.G., eds. *Clinical Virology*. 3rd ed. Washington, DC: ASM Press; 2009:943-976.

23. Kopecky-Bromberg, S.A., Palese, P. Recombinant Vectors as Influenza Vaccines. In: Compans, R.W., Orenstein, W.A., eds. Vaccines for Pandemic Influenza. Springer-Verlag, Berlin Heidelberg; 2009:243-268.

24. Pica, N., Palese, P. and Steel, J. Live Attenuated Influenza Virus Vaccines: NS1 Truncation as an Approach to Virus Attenuation. In: Dormitzer, P.R., Mandl, C.W. and Rappuoli, R., eds. *Replicating Vaccines*. Basel: Springer; 2011:195-221.

25. Varga, Z.T. and Palese, P. The influenza A virus protein PB1-F2: Killing two birds with one stone? In: Mylonakis, E., ed. *Virulence*. Austin: Landes Bioscience; 2011:542-546.

26. Stertz, S. and Palese, P. Genome Plasticity of Influenza Viruses. In: Hacker, J., Dobrindt, U. and Kurth, R., eds. *Genome Plasticity and Infectious Diseases*. Washington, DC: ASM Press; 2012:162-177.

27. Pica, N. and Palese, P. Toward a Universal Influenza Virus Vaccine: Prospects and Challenges. In: Annual Review of Medicine. 2013:15-28.

28. Palese, P. Influenza and Its Viruses. In: Engleberg, N.C., DiRita, V., Dermody, T.S., eds. *Schaechter's Mechanisms of Microbial Disease,* 5th ed. Philadelphia: Lippincott Williams & Wilkins, 2013: chapter 36.

29. Shaw, M.L. and Palese, P. *Orthomyxoviridae:* The Viruses and their Replication. In: Knipe, D.M., Howley, P.M. et al., eds. *Fields Virology*, 6th ed. Philadelphia: Lippincott-Raven Press; 2013.

30. Krammer, F. and Palese, P. *Orthomyxoviridae:* The Viruses and their Replication. In: Knipe, D.M., Howley, P.M. et al., eds. *Fields Virology,* 7th ed. Philadelphia: Wolters Kluwer; 2021.