



## Curriculum Vitae

### Personal information Othmar Engelhardt

#### Work experience

1. Employer: Medicines and Healthcare products Regulatory Agency
  - Start date: 062006
  - End date:
  - Position: Head of Seasonal Influenza
  - Activities: Standardisation of influenza vaccines Generation of influenza candidate vaccine viruses Control of influenza vaccines Influenza serology Research
  - Country: United Kingdom
2. Employer: University of Oxford
  - Start date: 112002
  - End date: 062006
  - Position: Postdoctoral Research Assistant
  - Activities: Research (influenza virus)
  - Country: United Kingdom
3. Employer: Universitaet Freiburg
  - Start date: 091998
  - End date: 112002
  - Position: Postdoctoral fellow
  - Activities: Research (interferon\_induced antiviral proteins; Thogoto virus)
  - Country: Germany
4. Employer: Mount Sinai School of Medicine, New York
  - Start date: 031994
  - End date: 041998
  - Position: Associate
  - Activities: research (for PhD) (influenza virus reverse genetics)
  - Country: United States

#### Education and training

1. Subject: University of Natural Resources and Applied Life Sciences, Vienna
  - Start date: 1993
  - End date: 1998
  - Qualification: Doctor rerum naturalium technicarum
  - Organisation: biotechnology virology molecular biology
  - Country: Austria
2. Subject: University of Natural Resources and Applied Life Sciences, Vienna
  - Start date: 1987
  - End date: 1993
  - Qualification: Diplom-Ingenieur
  - Organisation: food technology and biotechnology
  - Country: Austria

#### Additional information

##### Publications

##### Original work, peer-reviewed:

1. [O. Engelhardt](#), R. Grabherr, G. Himmler and F. Rüker. (1994) **Two-step cloning of antibody variable domains in a phage display vector.** *BioTechniques* 17: 44, 46.
2. T. Muster, B. Ferko, A. Klima, M. Purtscher, A. Trkola, P. Schulz, A. Grassauer, [O. G. Engelhardt](#), A. García-Sastre, P. Palese and H. Katinger. (1995) **Mucosal model of immunization against human immunodeficiency virus type 1 with a chimeric influenza virus.** *J. Virol.* 69: 6678-6686.
3. S. Pleschka, S. R. Jaskunas, [O. G. Engelhardt](#), T. Zürcher, P. Palese and A. García-Sastre. (1996) **A plasmid-based reverse genetics system for influenza A virus.** *J. Virol.* 70: 4188-4192.
4. J. Staczek, H. E. Gilleland, Jr., L. B. Gilleland, R. N. Harty, A. García-Sastre, [O. G. Engelhardt](#) and P. Palese. (1998) **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.
5. E. Fodor, L. Devenish, [O. G. Engelhardt](#), P. Palese, G. G. Brownlee, and A. García-Sastre. (1999) **Rescue of influenza A virus from recombinant DNA.** *J. Virol.* 73:9679-82.
6. E. Wagner, [O. G. Engelhardt](#), F. Weber, O. Haller, and G. Kochs. (2000) **Formation of virus-like particles from cloned cDNAs of Thogoto virus.** *J. Gen. Virol.* 81:2849-53.
7. E. Wagner, [O. G. Engelhardt](#), S. Gruber, O. Haller, and G. Kochs. (2001) **Rescue of recombinant Thogoto virus from cloned cDNA.** *J. Virol.* 75:9282-9286.
8. [O. G. Engelhardt\\*](#), E. Ullrich\*, G. Kochs, and O. Haller. (2001) **Interferon-induced antiviral Mx1 GTPase is associated with components of the SUMO-1 system and promyelocytic leukemia protein nuclear bodies.** *Exp. Cell Res.* 271:286-295.
9. [O. G. Engelhardt](#), C. Boutell, A. Orr, E. Ullrich, O. Haller, and R. D. Everett. (2003) **The homeodomain-interacting kinase PKM (HIPK-2) modifies ND10 through both its kinase domain and a SUMO-1 interaction motif and alters the posttranslational modification of PML.** *Exp. Cell Res.* 283:36-50.
10. [O. G. Engelhardt](#), H. Sirma, P.-P. Pandolfi, and O. Haller. (2004) **Mx1 GTPase accumulates in distinct nuclear domains and inhibits influenza A virus in cells that lack promyelocytic leukaemia**

**protein nuclear bodies.** *J. Gen. Virol.* 85:2315-2326.

11. O. G. Engelhardt, M. Smith, and E. Fodor. (2005) **Association of the influenza A virus RNA-dependent RNA polymerase with cellular RNA polymerase II.** *J. Virol.* 79:5812-5818.
12. A. Y. Chan, F. T. Vreede, M. Smith, O. G. Engelhardt, and E. Fodor. (2006) **Influenza virus inhibits RNA polymerase II elongation.** *Virology* 351:210-217.
13. T. Deng\*, O. G. Engelhardt\*, B. Thomas, A. V. Akoulitchev, G. G. Brownlee, and E. Fodor. (2007) **Role of Ran Binding Protein 5 in nuclear import and assembly of the influenza virus RNA polymerase complex.** *J. Virol.* 80:11911-11919.
14. R. Harvey, J. X. Wheeler, C. L. Wallis, J. S. Robertson, and O. G. Engelhardt. (2008) **Quantitation of haemagglutinin in H5N1 influenza viruses reveals low haemagglutinin content of vaccine virus NIBRG-14 (H5N1).** *Vaccine.* 26:6550-6554.
15. I. G. Barr, J. McCauley, N. Cox, R. Daniels, O. G. Engelhardt, K. Fukuda, G. Grohmann, A. Hay, A. Kelso, A. Klimov, T. Odagiri, D. Smith, C. Russell, M. Tashiro, R. Webby, J. Wood, Z. Ye, W. Zhang, Writing Committee of the World Health Organization on Northern Hemisphere Influenza Vaccine Composition for 2009-2010. (2010) **Epidemiological, antigenic and genetic characteristics of seasonal influenza A(H1N1), A(H3N2) and B influenza viruses: Basis for the WHO recommendation on the composition of influenza vaccines for use in the 2009-2010 Northern Hemisphere season.** *Vaccine.* 28:1156-1167.
16. R. Harvey, C. Nicolson, R. E. Johnson, K. A. Guilfoyle, D. L. Major, J. S. Robertson, and O. G. Engelhardt. (2010) **Improved haemagglutinin antigen content in H5N1 candidate vaccine viruses with chimeric haemagglutinin molecules.** *Vaccine.* 28:8008-8014.
17. J. S. Robertson, C. Nicolson, R. Harvey, R. Johnson, D. Major, K. Guilfoyle, S. Roseby, R. Newman, R. Collin, C. Wallis, O. G. Engelhardt, J. M. Wood, J. Le, R. Manojkumar, B. A. Pokorny, J. Silverman, R. Devis, D. Bucher, E. Verity, C. Agius, S. Camuglia, C. Ong, S. Rockman, A. Curtis, P. Schoofs, O. Zoueva, H. Xie, X. Li, Z. Lin, Z. Ye, L. M. Chen, E. O'Neill, A. Balish, A. S. Lipatov, Z. Guo, I. Isakova, C. T. Davis, P. Rivaller, K. M. Gustin, J. A. Belsler, T. R. Maines, T. M. Tumpey, X. Xu, J. M. Katz, A. Klimov, N. J. Cox, R. O. Donis. (2011) **The development of vaccine viruses against pandemic A(H1N1) influenza.** *Vaccine.* 29:1836-1843. (doi:10.1016/j.vaccine.2010.12.044)
18. R. Harvey, K. A. Guilfoyle, S. Roseby, J. S. Robertson and O. G. Engelhardt. (2011) **Improved antigen yield in pandemic H1N1 (2009) candidate vaccine viruses with chimeric haemagglutinin molecules.** *J. Virol.* 85:6086-6090.
19. E. Hutchinson, O. Orr, S. M. Liu, O. G. Engelhardt and E. Fodor. (2011) **Characterisation of the interaction between the influenza A virus polymerase subunit PB1 and the host nuclear import factor Ran Binding Protein 5.** *J. Gen. Virol.* 92:1859-1869.
20. C. Nicolson, R. Harvey, R. Johnson, K. Guilfoyle, O. G. Engelhardt and J. S. Robertson. (2012) **An additional oligosaccharide moiety in the HA of a pandemic influenza H1N1 candidate vaccine virus confers increased antigen yield in eggs.** *Vaccine.* 30:745-751.
21. R. Harvey, M. Hamill, J. S. Robertson, P. Minor, G. M. Vodeiko, J. P. Weir, H. Takahashi, Y. Harada, S. Itamura, P. Bamford, T. Dalla Pozza, O. G. Engelhardt. (2012) **Application of deglycosylation to SDS PAGE analysis improves calibration of influenza antigen standards.** *Biologicals* 40:96-99.
22. R. E. Johnson, M. Hamill, R. Harvey, C. Nicolson, J. S. Robertson, O. G. Engelhardt. (2012) **Permissible variation in the 3' non-coding region of the haemagglutinin genome segment of the H5N1 candidate vaccine virus NIBRG-14.** *PLoS ONE* 7(5):e36241. doi:10.1371/journal.pone.0036241
23. A. I. Klimov, R. Garten, C. Russell, I. G. Barr, T. G. Besselaar, R. Daniels, O. G. Engelhardt, G. Grohmann, S. Itamura, A. Kelso, J. McCauley, T. Odagiri, D. Smith, M. Tashiro, X. Xu, R. Webby, D. Wang, Z. Ye, S. Yuelong, W. Zhang, N. Cox, Writing Committee of the World Health Organization Consultation on Southern Hemisphere Influenza Vaccine Composition for 2012. (2012) **WHO recommendations for the viruses to be used in the 2012 Southern Hemisphere Influenza Vaccine: Epidemiology, antigenic and genetic characteristics of influenza A(H1N1)pdm09, A(H3N2) and B influenza viruses collected from February to September 2011.** *Vaccine.* 30:6461-6471. (doi:10.1016/j.vaccine.2012.07.089)
24. R. Harvey, R. E. Johnson, K. MacLellan-Gibson, J. S. Robertson, O. G. Engelhardt. (2014) **A promoter mutation in the haemagglutinin segment of influenza A virus generates an effective candidate live attenuated vaccine.** *Influenza and Other Respiratory Viruses.* 8:605-612. (doi:10.1111/irv.12274)
25. S. E. Hufton, P. Risle, C. R. Ball, D. Major, O. G. Engelhardt, S. Poole. (2014) **The breadth of cross sub-type neutralisation activity of a single domain antibody to influenza haemagglutinin can be increased by antibody valency.** *PLoS ONE* 9(8): e103294. doi:10.1371/journal.pone.0103294.
26. I. G. Barr, C. Russell, T. G. Besselaar, N. J. Cox, R. S. Daniels, R. Donis, O. G. Engelhardt, G. Grohmann, S. Itamura, A. Kelso, J. McCauley, T. Odagiri, S. Schultz-Cherry, Y. Shu, D. Smith, M. Tashiro, D. Wang, R. Webby, X. Xu, Z. Ye, W. Zhang; Writing Committee of the World Health Organization Consultation on Northern Hemisphere Influenza Vaccine Composition for 2013-2014. (2014) **WHO recommendations for the viruses used in the 2013-2014 Northern Hemisphere influenza vaccine: Epidemiology, antigenic and genetic characteristics of influenza A(H1N1)pdm09, A(H3N2) and B influenza viruses collected from October 2012 to January 2013.** *Vaccine.* 32:4713-4725. (doi: 10.1016/j.vaccine.2014.02.014)
27. K. L. Laurie, O. G. Engelhardt, J. Wood, A. Heath, J. M. Katz, M. Peiris, K. Hoschler, O. Hungnes, W. Zhang, M. D. Van Kerkhove. (2015) **International Laboratory Comparison of Influenza Microneutralization Assays for A(H1N1)pdm09, A(H3N2), and A(H5N1) Influenza Viruses by CONSISE.** *Clin Vaccine Immunol.* 22(8):957-64. doi: 10.1128/CVI.00278-15.
28. M. C. Eichelberger, L. Couzens, Y. Gao, M. Levine, J. Katz, R. Wagner, C. Thompson, K. Hoeschler, K. Laurie, T. Bai, O. G. Engelhardt, ELLA study participants, J. Wood. (2016) **Comparability of neuraminidase inhibition antibody titers measured by enzyme-linked lectin assay (ELLA) for the analysis of influenza vaccine immunogenicity.** *Vaccine.* 34(4):458-465. doi: 10.1016/j.vaccine.2015.12.022.
29. C. Nicolson, R. Harvey, O. G. Engelhardt, J. S. Robertson. (2016) **The Ability of a Non-Egg Adapted (Cell-Like) A(H1N1)pdm09 Virus to Egg-Adapt at HA Loci Other than 222 and 223 and Its Effect on the Yield of Viral Protein.** *PLoS One.* Nov 18;11(11):e0166761. doi: 10.1371/journal.pone.0166761.
30. P. W. Horby, K. L. Laurie, B. J. Cowling, O. G. Engelhardt, K. Sturm-Ramirez, J. L. Sanchez, J. M. Katz, T. M. Uyeki, J. Wood, M. D. Van Kerkhove, CONSISE Steering Committee. (2017) **CONSISE statement on the reporting of Seroepidemiologic Studies for influenza (ROSES-I statement): an extension of the STROBE statement.** *Influenza Other Respir Viruses.* 11(1):2-14. doi: 10.1111/irv.12411.
31. O. G. Engelhardt, C. Edge, U. Dunleavy, K. Guilfoyle, R. Harvey, D. Major, R. Newman, R. Penn, S. Skeldon, C. Storey, J. Wheeler, J. Wood, P. Minor. (2018) **Comparison of single radial immunodiffusion, SDS-PAGE and HPLC potency assays for inactivated influenza vaccines shows differences in ability to predict immunogenicity of haemagglutinin antigen.** *Vaccine,* Jul 5; 36(29):4339-4345. doi: 10.1016/j.vaccine.2018.05.076.
32. J. U. McDonald, P. Rigsby, T. Dougall, O. G. Engelhardt, Study Participants. (2018) **Establishment of the first WHO International Standard for antiserum to Respiratory Syncytial Virus: Report of an international collaborative study.** *Vaccine* 36(50):7641-7649. doi: 10.1016/j.vaccine.2018.10.087. Epub 2018 Oct 30.
33. W. Dong, Y. Bhide, F. Sicca, T. Meijerhof, K. Guilfoyle, O. G. Engelhardt, L. Boon, C. A. M. de Haan, G. Carnell, N. Temperton, J. de Vries-Idema, D. Kelvin, A. Huckriede. (2018) **Cross-Protective Immune Responses Induced by Sequential Influenza Virus Infection and by Sequential Vaccination With Inactivated Influenza Vaccines.** *Front Immunol.* 9:2312. doi: 10.3389/fimmu.2018.02312. eCollection 2018.
34. S. Hussain, M. L. Turnbull, H. M. Wise, B. W. Jagger, P. M. Beard, K. Kovacicova, J. K. Taubenberg, L. Vervelde, O. G. Engelhardt, P. Digard. (2019) **Mutation of Influenza A Virus PA-X Decreases Pathogenicity in Chicken Embryos and Can Increase the Yield of Reassortant Candidate Vaccine**

- Viruses.** *J. Virol.* 93(2): e01551-18. doi: 10.1128/JVI.01551-18.
35. W. Ramage, T. Gaiotto, C. Ball, P. Risley, G. W. Carnell, N. Temperton, C. Y. Cheung, [O. G. Engelhardt](#), S. E. Hufton. (2019) **Cross-Reactive and Lineage-Specific Single Domain Antibodies against Influenza B Hemagglutinin.** *Antibodies* 8(1), 14; <https://doi.org/10.3390/antib8010014>
  36. S. Hussain, M. L. Turnbull, R. M. Pinto, J. W. McCauley, [O. G. Engelhardt](#), P. Digard. (2019) **Segment 2 from influenza A(H1N1) 2009 pandemic viruses confers temperature-sensitive haemagglutinin yield on candidate vaccine virus growth in eggs that can be epistatically complemented by PB2 701D.** *J Gen Virol.* 100(7):1079-1092. doi: 10.1099/jgv.0.001279
  37. Y. Bhide, W. Dong, I. Gribonika, D. Voshart, T. Meijerhof, J. de Vries-Idema, S. Norley, K. Guilfoyle, S. Skeldon, [O. G. Engelhardt](#), L. Boon, D. Christensen, N. Lycke, A. Huckriede. (2019) **Cross-Protective Potential and Protection-Relevant Immune Mechanisms of Whole Inactivated Influenza Virus Vaccines Are Determined by Adjuvants and Route of Immunization.** *Front Immunol.* 10:646. doi: 10.3389/fimmu.2019.00646. eCollection 2019.
  38. J. U. McDonald, P. Rigsby, E. Atkinson, [O. G. Engelhardt](#), Study Participants. (2020) **Expansion of the 1st WHO international standard for antiserum to respiratory syncytial virus to include neutralisation titres against RSV subtype B: An international collaborative study.** *Vaccine* 38(4):800-807. doi: 10.1016/j.vaccine.2019.10.095
  39. J. M. M. Del Rosario, M. Smith, K. Zaki, P. Risley, N. Temperton, [O. G. Engelhardt](#), M. Collins, Y. Takeuchi, S. E. Hufton. (2020) **Protection From Influenza by Intramuscular Gene Vector Delivery of a Broadly Neutralizing Nanobody Does Not Depend on Antibody Dependent Cellular Cytotoxicity.** *Front Immunol.* 11:627. doi: 10.3389/fimmu.2020.00627
  40. B. Vidiña, S. M. Brookes, H. E. Everett, F. Garçon, A. Nuñez, [O. Engelhardt](#), D. Major, K. Hoshler, I. H. Brown, M. Zambon. (2020) **Inactivated pandemic 2009 H1N1 influenza A virus human vaccines have different efficacy after homologous challenge in the ferret model.** *Influenza Other Respir Viruses.* 15:142-153. doi: 10.1111/irv.12784.
  41. K. Guilfoyle, D. Major, S. Skeldon, H. James, J. L. Tingstedt, C. Polacek, R. Lassaunière, [O. G. Engelhardt](#)<sup>#</sup>, A. Fomsgaard. (2020) **Protective efficacy of a polyvalent influenza A DNA vaccine against both homologous (H1N1pdm09) and heterologous (H5N1) challenge in the ferret model.** *Vaccine.* Oct 6;50264-410X(20)31233-0. doi: 10.1016/j.vaccine.2020.09.062. Online ahead of print.
  42. J. M. Carreño, J. U. McDonald, T. Hurst, P. Rigsby, E. Atkinson, L. Charles, R. Nachbagauer, M. A. Behzadi, S. Strohmeier, L. Coughlan, T. Aydllo, B. Brandenburg, A. García-Sastre, K. Kaszas, M. Z. Levine, A. Manenti, A. B. McDermott, E. Montomoli, L. Muchene, S. R. Narpala, R. A. P. M. Perera, N. C. Salisch, S. A. Valkenburg, F. Zhou, [O. G. Engelhardt](#)<sup>#</sup>, and F. Krammer<sup>#</sup>. (2020) **Development and Assessment of a Pooled Serum as Candidate Standard to Measure Influenza A Virus Group 1 Hemagglutinin Stalk-Reactive Antibodies.** *Vaccines*, 8, 666; doi:10.3390/vaccines8040666.
  43. T. Gaiotto, W. Ramage, C. Ball, P. Risley, G. W. Carnell, N. Temperton, [O. G. Engelhardt](#), S. E. Hufton. (2021) **Nanobodies mapped to cross-reactive and divergent epitopes on A(H7N9) influenza hemagglutinin using yeast display.** *Sci Rep.* 11(1):3126. doi: 10.1038/s41598-021-82356-4.
  44. J. Waldock, L. Zheng, E. J. Remarque, A. Civet, B. Hu, S. Lartey Jalloh, R. J. Cox, S. Ho, K. Hoshler, T. Ollinger, C. M. Trombetta, [O. G. Engelhardt](#), C. Caillet. (2021) **Assay Harmonization and Use of Biological Standards To Improve the Reproducibility of the Hemagglutination Inhibition Assay: a FLUCOP Collaborative Study.** *mSphere* 6:e00567-21. doi: 10.1128/mSphere.00567-21.
  45. M.-C. Bernard, J. Waldock, S. Commandeur, L. Strauß, C. M. Trombetta, S. Marchi, F. Zhou, S. Van de Witte, P. Van Amsterdam, S. Ho, K. Hoshler, V. Lugovtsev, J. P. Weir, E. Montomoli, R. J. Cox, [O. G. Engelhardt](#), D. Friel, R. Wagner, T. Ollinger, S. Germain, H. Sediri-Schön and FLUCOP consortium collaborators. (2022) **Validation of a Harmonized Enzyme-Linked-Lectin-Assay Based Neuraminidase Inhibition Assay Standard Operating Procedure for Quantification of N1 Influenza Antibodies and the Use of a Calibrator to Improve the Reproducibility of the ELLA-NI With Reverse Genetics Viral and Recombinant Neuraminidase Antigens: A FLUCOP Collaborative Study.** *Frontiers in Immunology*, 13, Article 909297. doi: 10.3389/fimmu.2022.909297
  46. C. Y. Cheung, S. Dubey, M. Hadrovic, C. R. Ball, W. Ramage, J. U. McDonald, R. Harvey, S. E. Hufton and [O. G. Engelhardt](#). (2022) **Development of an ELISA-Based Potency Assay for Inactivated Influenza Vaccines Using Cross-Reactive Nanobodies.** *Vaccines*, 10, 1473. <https://doi.org/10.3390/vaccines10091473>
  47. J. Waldock, C. D. Weiss, W. Wang, M. Z. Levine, S. N. Jefferson, S. Ho, K. Hoshler, B. Z. Londt, E. Masat, L. Carolan, S. Sánchez-Ovando, A. Fox, S. Watanabe, M. Akimoto, A. Sato, N. Kishida, A. Buys, L. Maake, C. Fourie, C. Caillet, S. Raynaud, R. J. Webby, J. DeBeauchamp, R. J. Cox, S. L. Lartey, C. M. Trombetta, S. Marchi, E. Montomoli, I. Sanz-Muñoz, J. M. Eiros, J. Sánchez-Martínez, D. Duijsings and [O. G. Engelhardt](#) on behalf of FLUCOP consortium collaborators. (2023) **An external quality assessment feasibility study; cross laboratory comparison of haemagglutination inhibition assay and microneutralization assay performance for seasonal influenza serology testing: A FLUCOP study.** *Frontiers in Immunology*, 14:1129765. doi: 10.3389/fimmu.2023.1129765
  48. J. Waldock, E. J. Remarque, L. Zheng, S. Ho, K. Hoshler, B. Neumann, H. Sediri-Schön, C. M. Trombetta, E. Montomoli, S. Marchi, G. Lapini, F. Zhou, S. L. Lartey, R. J. Cox, M. Facchini, M. R. Castrucci, D. Friel, T. Ollinger, C. Caillet, N. Music, G. Palladino, [O. G. Engelhardt](#) and the FLUCOP consortium. (2023) **Haemagglutination inhibition and virus microneutralisation serology assays: use of harmonised protocols and biological standards in seasonal influenza serology testing and their impact on inter-laboratory variation and assay correlation: A FLUCOP collaborative study.** *Frontiers in Immunology*, 14:1155552. doi: 10.3389/fimmu.2023.1155552
  49. A. Ekimov, A. B. Arunachalam, T. Blake, J. Bodle, L. Couzens, S. Dubey, M. Eichelberger, [O. G. Engelhardt](#), F. Gubinelli, M. Joshi, D. Melnyk, G. Palladino, P. Rigsby, S. Rockman, N. Savina, E. Smith, S. A. N. Gilchrist; World Health Organization's Pandemic Influenza preparedness, Vaccine Response's Alternative Potency, Reagents Technical Working Group. (2023) **Assessing the stability-indicating properties of alternative potency assays for inactivated influenza vaccine.** *Vaccine*, 41(32):4639-4647. doi: 10.1016/j.vaccine.2023.06.051.
  50. P. Mooij, D. Mortier, A. Aartse, A. B. Murad, R. Correia, A. Roildão, P. M. Alves, Z. Fagrouch, D. Eggink, N. Stockhofe, [O. G. Engelhardt](#), E. J. Verschoor, M. J. van Gils, W. M. Bogers, M. J. T. Carrondo, E. J. Remarque and G. Koopman. (2023) **Vaccine-induced neutralizing antibody responses to seasonal influenza virus H1N1 strains are not enhanced during subsequent pandemic H1N1 infection.** *Frontiers in Immunology* 14:1256094. doi: 10.3389/fimmu.2023.1256094
  51. C. T. Ekanger, N. D. Kumar, R. W. Koutstaal, F. Zhou, M. Beukema, J. Waldock, S. P. Jochems, N. Mulder, C. A. C. M. van Els, [O. G. Engelhardt](#), N. Mantel, K. P. Buno, K. A. Brokstad, A. S. T. Engelsen, R. J. Cox, B. N. Melgert, A. L. W. Huckriede, P. B. van Kasteren. (2025) **Comparison of air-liquid interface transwell and airway organoid models for human respiratory virus infection studies.** *Front Immunol.* 16:1532144. doi: 10.3389/fimmu.2025.1532144.
  52. V. M. Cnossen, P. C. Leao Moreira, [O. G. Engelhardt](#), J. Samolej, G. H. Groeneveld, S. P. Jochems, W. Huisman, G. K. Pedersen, K. Wörzner, L. Recek, G. Piccini, C. M. Trombetta, A. Aspelund, A. Hoag, M. Reiter, C. Wick, T. Muster, I. M. C. Kamerling. (2025) **Development of an intranasal, universal influenza vaccine in an EU-funded public-private partnership: the FLUniversal consortium.** *Front Immunol.* 16:1568778. doi: 10.3389/fimmu.2025.1568778
  53. J. U. McDonald, N. A. Hosken, [O. G. Engelhardt](#), Study Participants. (2025) **Assessing commutability of the first WHO International Standard for antiserum to respiratory syncytial virus.** *Vaccine*, 61: 127430. <https://doi.org/10.1016/j.vaccine.2025.127430>

#### Meeting Reports, Reviews, and Book Chapters:

1. T. Muster, B. Ferko, A. Klíma, M. Purtscher, P. Schulz, A. Grassauer, H. Katinger, [O. Engelhardt](#), A. García-

- Sastre and P. Palese, (1995) **Secretory antibodies against HIV-1 induced by a chimeric influenza virus**. In *Vaccines 95*. Cold Spring Harbor Laboratory Press.
2. T. Muster, B. Ferko, A. Grassauer, A. Klima, D. Katinger, M. Purtscher, H. Katinger, [O. G. Engelhardt](#), A. García-Sastre and P. Palese. (1996) **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*. Cold Spring Harbor Laboratory Press.
  3. P. Palese, H. Zheng, [O. G. Engelhardt](#), S. Pleschka and A. García-Sastre. (1996) **Negative-strand RNA viruses: Genetic engineering and applications**. *Proc. Natl. Acad. Sci. USA* 93: 11354-11358.
  4. H. E. Gilleland, Jr., L. B. Gilleland, J. Staczek, R. N. Harty, A. García-Sastre, [O. G. Engelhardt](#) and P. Palese. (1997) **Chimeric influenza viruses incorporating epitopes of outer membrane protein F as a vaccine against infection with *Pseudomonas aeruginosa***. *Behring. Inst. Mitt.* 98: 291-301.
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Note: \*.....equal contribution

#.....corresponding author

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