

CURRICULUM VITAE

Dr. Rüdiger Martin Groß

born on 12.03.1993

Institute of Molecular Virology
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SHORT PROFILE

- **Biochemist and molecular virologist**
- **Investigating transmission & pathogenesis of emerging human pathogenic viruses**
- **Development of novel broad-spectrum antivirals and antimicrobial peptides**

ACADEMIC EDUCATION

- 01/2018 **PhD studies**
- 09/2022 “Extracellular vesicles in human body fluids as innate antiviral factors”
Dr. rer. nat. in Molecular Medicine, **Grade 1.0, *summa cum laude***
International Graduate School in Molecular Medicine IGradU, Ulm University
- 10/2015 - **Master of Science, Biochemistry**, Ulm University
11/2017 Main Focus: Protein biochemistry
Grade: 1.2, Master thesis grade: 1.0, Institute of Molecular Virology
- 10/2012 - **Bachelor of Science, Biochemistry**, Ulm University
09/2015 **Grade: 1.9**, Bachelor thesis grade: 1.0, Institute of Virology
- 09/2003 - **Allgemeine Hochschulreife** (University entrance qualification)
05/2012 **Grade: 1.9**, Robert-Bosch-Gymnasium Langenau

ADDITIONAL QUALIFICATIONS

- 11/2017 **Chemical expertise certificate**
Handling and preparation of hazardous chemicals according to §11
ChemVerbots (“*Giftschein*”)
(Institute for Toxicology and Pharmacology, Ulm University)
- 05/2018 **Safety in genetic engineering**
Certificate for expertise in biological safety according to § 15 Abs. 4 GenTSV
(Academy for Science, Economy and Technology, Ulm University)

AWARDS

- 09/2022 **Student Award** for the best dissertation in 2021/22, International Graduate School in Molecular Medicine
- 09/2022 **Junior Member Award**, International Society for Extracellular Vesicles (awarded as part of ISEVxTech 2022)
- 04/2022 **Creative Young Investigator Award**, CRC1279 (Exploiting the Human Peptidome for Novel Antimicrobial and Anticancer Agents)
- 03/2020 **Short Talk Prize**, American Society for Exosomes and Microvesicles (awarded during “Exosomes in Human Infectious Diseases conference” 2020)
- 01/2018 – 01/2021 **Doctoral scholarship**, Ulm University Medical Faculty, International Graduate School in Molecular Medicine (Excellence Initiative of the German Federal Government)

TEACHING

- 09/2019 - 07/2020 **Master thesis** supervision “*Identification and characterization of Zika virus restriction factors*”
Susanne Klute, Grade 1.3
- 02/2019 – 04/2019 **Bachelor thesis** supervision “Establishing a sandwich ELISA for quantification of Zika virus Envelope protein”
Tirza Braun, Grade 1.0
- Since 2019 Informational open house day lecture for pupils on HIV and research
- 05/2018 – 11/2018 **Master thesis** supervision “*Generation of replication-competent ZIKV reporter viruses by BAC recombineering*”
Ann-Kathrin Mattes, Grade 1.0

INVITED REVIEWING ACTIVITY

- Journal of Extracellular Vesicles (Wiley/ISEV)
Nature Communications (Nature Publishing Group)
Pediatrics (American Academy of Pediatrics)
Molecular and Cellular Pediatrics (American Society for Microbiology)
PLoS One (Public Library of Science)
- Since 2022 Editorial Board Member, Frontiers in Microbiology

CONFERENCES

- 11/2022 ISEVxTech 2022, Honolulu
Detection of EV-exposed phosphatidylserine extends the capabilities of bead-based flow cytometry (poster presentation)
- 05/2022 International Society for Extracellular Vesicles Annual Meeting 2022, Lyon
Body fluid-derived EVs exert selective antiviral activity with variable potency (poster presentation)

- 03/2022 31st Annual Meeting of the Society for Virology
 “Composition and anti-ZIKV activity of extracellular vesicles purified from human body fluids” (ePoster, online)
- 03/2021 30th Annual Meeting of the Society for Virology
 “Modeling gastrointestinal infection of SARS-CoV-2 and its inhibition in human pluripotent stem-cell derived intestinal organoids”
 (ePoster + oral presentation, online)
- 01/2021 COVID/SARS CoV2 Rapid Research Reports 5, Cold Spring Harbor Laboratory
 “SARS-CoV-2 infects cells of the human exocrine and endocrine pancreas and interferes with β -cell function” (poster presentation, online)
- 10/2020 Zoonoses 2020 - International Symposium on Zoonoses Research, Online-meeting
 “Salivary extracellular vesicles inhibit Zika virus but not SARS-CoV-2 infection” (poster presentation, online)
- 07/2020 Extracellular Vesicle Club at Johns Hopkins University
 “Salivary extracellular vesicles inhibit Zika virus but not SARS-CoV-2 infection” (invited oral presentation, online)
- 03/2020 Exosomes in Human Infectious Diseases, Nassau
 “Isolation and characterization of antiviral extracellular vesicles from human body fluids” (oral presentation)

MEMBERSHIPS

- Since 2020 Member of the *Nationale Forschungsplattform für Zoonosen*
- Since 2020 Member of the International Society for Extracellular Vesicles (ISEV)
- Since 2020 Member of the German Society for Virology (GfV)

PUBLICATIONS

1. Groß R & Kleger A: Covid-19 and diabetes – where are we now? **Nat. Metab.** (2022), accepted
2. Weil T, Kirupakaran A, Le MH, Rebmann P, Mieres-Perez J, Issmail L, Conzelmann C, Müller JA, Rauch L, Gilg A, Wettstein L, Groß R, Read C, Bergner T, Pålsson SA, Uhlig N, Eberlein V, Wöll H, Klärner FG, Stenger S, Kümmerer BM, Streeck H, Fois G, Frick M, Braubach P, Spetz AL, Grunwald T, Shorter J, Sanchez-Garcia, Schrader T, Münch J: Advanced Molecular Tweezers with Lipid Anchors against SARS-CoV-2 and Other Respiratory Viruses. **JACS Au**, 2(9):2187-2202, doi.org/10.1021/jacsau.2c00220 (2022)
3. Acharya D, Reis R, Volcic M, Liu GQ, Wang M, Chia BS, Nchioua R, Groß R, Münch J, Kirchhoff F, Sparrer KMJ, Gack M: Virus-induced actin remodeling primes innate immunity by RIG-I-like receptors. **Cell**, 185(19):3588-3602.e21, doi.org/10.1016/j.cell.2022.08.011 (2022)
4. Harms M, von Maltitz P, Groß R, Mayer B, Müller JA, Münch J: Utilization of aminoguanidine prevents cytotoxic effects of semen. **Int. J. Mol. Sci.**, 23(15):8563, doi.org/10.3390/ijms23158563 (2022).
5. Seidel A*, Zanoni M*, Groß R*, Krnavek D, Erdemci-Evin S, von Maltitz P, Albers DPJ, Conzelmann C, Liu S, Weil T, Mayer B, Hoffman M, Pöhlmann S, Beil A, Kroschel J, Kirchhoff F, Münch J, Müller JA: BNT162b2 booster after heterologous prime-boost vaccination induces potent neutralizing antibodies and T cell reactivity against SARS-CoV-2 Omicron BA.1 in young adults. **Front. Immunol.**, 13:882918, doi.org/10.3389/fimmu.2022.882918 (2022)
6. Groß R, Dias Loiola LM, Issmail L, Uhlig N, Eberlein V, Conzelmann C, Olari LR, Rauch L, Lawrenz J, Weil T, Müller JA, Cardoso MB, Gilg A, Larsson O, Höglund U, Pålsson SA, Tvilum

- AS, Løvschall KB, Kristensen MM, Spetz AL, Hontonnou F, Galloux M, Grunwald T, Zelikin AN, Münch J: Macromolecular Viral Entry Inhibitors as Broad-Spectrum First-Line Antivirals with Activity against SARS-CoV-2. **Adv. Sci.**, 9(20):e2201378, doi.org/10.1002/advs.202201378 (2022)
7. Schorer V, Haas J, Stach R, Kokoric V, Groß R, Münch J, Hummel T, Sobek H, Memnning J, Mizaikoff B: Towards the direct detection of viral materials at the surface of protective face masks via infrared spectroscopy. **Sci. Rep.**, 12(1):2309, doi.org/10.1038/s41598-022-06335-z (2022)
 8. Renk H, Dulovic A, Seidel A, Becker M, Fabricius D, Zernickel M, Junker D, Groß R, Müller JA, Hilger A, Bode SFN, Fritsch L, Frieh P, Haddah A, Görne T, Remppis J, Ganzmueller T, Dietz A, Huzly D, Hengel H, Kaier K, Weber S, Jacobsen EM, Kaiser PD, Trankle B, Rothbauer U, Stich M, Tönshoff B, Hoffmann GF, Müller B, Ludwig C, Jahrsdörfer B, Schrezenmeier H, Peter A, Hörber S, Iftner T, Münch J, Stamminer T, Groß HJ, Wolkewitz M, Engel C, Liu W, Rizzi M, Hahn BH, Henneke P, Franz A, Debatin KM, Schneiderhan-Marra N, Janda A, Elling R: Robust and durable serological response following pediatric SARS-CoV-2 infection. **Nat. Commun.**, 13(1):128, doi.org/10.1038/s41467-021-27595-9 (2022)
 9. Conforti A, Marra E, Palombo F, Roscilli G, Ravà M, Fugamalli V, Muzi A, Maffei M, Lubarto L, Lione L, Salvatori E, Compagnone M, Pinto E, Pavoni E, Bucci F, Vitagliano G, Stoppolini D, Pacello ML, Cappalletti M, Ferrara FF, D'Acunto E, Chiarini V, Arriga R, Nyska A, Di Lucia P, Marotta D, Bono E, Guistini L, Sala E, Perucchini C, Paterson J, Ryan KA, Challis AR, Matusali G, Colavita F, Caselli G, Ccriscuolo E, Clemeti N, Macini N, Groß R, Seidel A, Wettstein L, Münch J, Doccini L, Conti M, De Francesco R, Kuka M, Ciliberto G, Castilletti C, Capobianchi MR, Ippolito G, Guidotti L, Rovati L, Innacona M, Aurisicchio L: COVID-eVax, an electroporated DNA vaccine candidate encoding the SARS-CoV-2 RBD, elicits protective responses in animal models. **Mol. Ther.**, 30(1):311-326, doi.org/10.1016/j.ymthe.2021.09.011 (2022)
 10. Conzelmann C, Weil T, Olari LR, Gilg A, Rauch L, Albers DPJ, Groß R, Müller JA, Münch J: Virucidal activity of SARS-CoV-2 rapid antigen extraction buffers. **J. Clin. Virol.**, 147:105062, doi.org/10.1016/j.jcv.2021.105062 (2022)
 11. Batista A, Pajpal S, Keitel B, Dietl S, Fresco-Cala B, Dinc M, Groß R, Sobek H, Münch J, Mizaikoff B: Plastic Antibodies Mimicking the ACE2 Receptor for Selective Binding of SARS-CoV-2 Spike. **Adv. Mat. Interf.**, 9(5):2101925, doi.org/10.1002/admi.202101925 (2022)
 12. Groß R^{*}, Zanoni M^{*}, Seidel A^{*}, Conzelmann C, Gilg A, Krnavek D, Erdemci-Evin S, Mayer B, Hoffmann M, Pöhlmann S, Beil A, Kroschel J, Jahrsdörfer B, Schrezenmeier H, Kirchhoff F, Münch J, Müller JA: Heterologous ChAdOx1 nCoV-19 and BNT162b2 prime-boost vaccination elicits potent neutralizing antibody responses and T cell reactivity against prevalent SARS-CoV-2 variants. **EBioMedicine**, 75:103761, doi.org/10.1016/j.ebiom.2021.103761 (2022)
 13. Wieland J, Frey S, Rupp U, Essbauer S, Groß R, Münch J, Walther P: Zika virus replication in glioblastoma cells: electron microscopic tomography shows 3D arrangement of endoplasmic reticulum, replication organelles, and viral ribonucleoproteins. **Histochem. Cell Biol.**, 156(6):527-538, doi.org/10.1007/s00418-021-02028-2 (2021)
 14. Fresco-Cala B, Rajpal S, Ruddolf Tm, Keitel B, Groß R, Münch J, Batista A, Mizaikoff B: Development and Characterization of Magnetic SARS-CoV-2 Peptide-Imprinted Polymers. **Nanomaterials**, 11(11):2985, doi.org/10.3390/nano11112985 (2021)
 15. Prelli Bozzo C, Nchioua R, Volcic M, Koepke L, Krüger J, Schütz D, Heller S, Stürzel CM, Kmiec D, Conzelmann C, Müller J, Zech F, Braun E, Groß R, Wettstein L, Weil T, Weiß J, Diofano F, Alfonso AAR, Wiese S, Sauter D, Münch J, Goffinet C, Catanese A, Schön M, Böckers TB, Stenger S, Sato K, Just S, Kleger A, Sparrer KMJ, Kirchhoff F: IFITM proteins promote SARS-CoV-2 infection and are targets for virus inhibition in vitro. **Nat. Commun.**, 12(1):4584, doi.org/10.1038/s41467-021-24817-y (2021)
 16. Garcia MG, Vicente FM, Pico ED, Hilda G, Rivera DG, Grieshober M, Olari LR, Groß R, Conzelmann C, Krüger F, Zech F, Prelli Bozzo C, Müller J, Zelikin A, Raber H, Kubiczek D, Rosenau F, Münch J, Stenger S, Spellerberg B, Franco OL, Alfonso AAR, Ständker L, Otero A: Antimicrobial Activity of Cyclic-Monomeric and Dimeric Derivatives of the Snail-Derived

- Peptide Cm-p5 against Viral and Multidrug-Resistant Bacterial Strains. **Biomolecules**, 11(5):745, doi.org/10.3390/biom11050745 (2021)
17. Jahrsdörfer B, Groß R, Seidel A, Wettstein L, Ludwig C, Schwarz T, Körper S, Rojewski M, Lofti R, Weinstock C, Seifried E, Corman CM, Drosten C, Münch J, Schrezenmeier H: Characterization of the SARS-CoV-2 Neutralization Potential of COVID-19–Convalescent Donors. **J. Immunol.**, 206(11):2614-2622, doi.org/10.4049/jimmunol.2100036 (2021)
 18. Enderle A, Bosso M, Groß R, Heiland M, Billini M, Culzoni MJ, Kirchhoff F, Münch J, Streb C: Increased in vitro Anti-HIV Activity of Caffeinium-Functionalized Polyoxometalates. **ChemMedChem**, 16(17):2727-2730, doi.org/10.1002/cmdc.202100281 (2021)
 19. Wettstein L, Conzelmann C, Müller JA, Weil T, Groß R, Seidel A, Klute S, Zech F, Bozzo CP, Preising N, Fois G, Lochbaum R, Knaff P, Mailänder V, Ständker L, Thal R, Schumann C, Stenger S, Kleger A, Lochnit GG, Mueller JA, Weil T, Gross R, Hirschenberger M, Seidel A, Klute S, Prelli-Bozzo Caterina, Zech F, Preising N, Fois G, Lochbaum R, Knaff P, Mailaender V, Staendker L, Thal D, Schumann C, Stenger S, Sparrer K, Kleger A, Lochnit GG, Kirchhoff F, Frick M, Muench J: Alpha-1 antitrypsin inhibits SARS-CoV-2 infection. **Nat. Commun.**, 12(1):1726, doi.org/10.1038/s41467-021-21972-0 (2021)
 20. Schütz D, Read C, Groß R, Röcker A, Rode S, Annamalai K, Fändrich M, Münch J: Negatively Charged Peptide Nanofibrils from Immunoglobulin Light Chain Sequester Viral Particles but Lack Cell-Binding and Viral Transduction-Enhancing Properties. **ACS Omega**, 6(11):7731-7738, doi.org/10.1021/acsomega.1c00068 (2021)
 21. Hoffmann M*, Arora P*, Groß R*, Seidel L*, Hoernich B, Hahn A, Krüger N, Graichen L, Hofmann-Winkler H, Kempf A, Winkler MS, Schulz S, Jaeck HM, Jahrsdörfer B, Schrezenmeier H, Müller M, Kleger A, Münch J, Pöhlmann S: SARS-CoV-2 variants B.1.351 and P.1 escape from neutralizing antibodies. **Cell**, 184(9):2384-2393.e12, doi.org/10.1016/j.cell.2021.03.036 (2021)
 22. Schütz D, Conzelmann C, Fois G, Groß R, Weil T, Wettstein L, Stenger S, Zelikin A, Hoffman T, Frick M, Müller JA, Münch J: Carrageenan containing over-the-counter nasal and oral sprays inhibit SARS-CoV-2 infection of airway epithelial cultures. **AJP Lung**, 320(5):L750-L756, doi.org/10.1152/ajplung.00552.2020 (2021)
 23. Müller JA*, Groß R*, Conzelmann C*, Krüger J*, Koepke L, Steinhart J, Weil T, Prelli Bozzo C, Read C, Fois G, Eiseler T, Gehrmann J, van Vuuren J, Wessbecher IM, Frick M, Costa IG, Breunig M, Schuster M, Liebau M, Seufferlein T, Stenger S, Stenzinger A, MacDonald PE, Kirchhoff F, Sparrer KMJ, Walther P, Lickert H, Barth, TFE, Wagner M, Münch J, Heller S, Kleger A: SARS-CoV-2 infects cells of the human exocrine and endocrine. **Nature Metabolism**, 3(2):149-165, doi.org/10.1038/s42255-021-00347-1 (2021)
 24. Hayn M, Blötz A, Rodríguez A, Vidal S, Preising N, Ständker L, Wiese S, Stürzel CM, Harms M, Groß R, Jung C, Keine M, Hahn BH, Jacob T, Pöhlmann S, Forssmann WG, Münch J, Sparrer KMJ, Seuwen K, Kirchhoff F: Natural Cystatin C fragments inhibit GPR15-mediated HIV and SIV infection without interfering with GPR15L signaling. **PNAS**, 118(3):e2023776118, doi.org/10.1073/pnas.2023776118 (2021)
 25. Krüger J*, Groß R*, Conzelmann C*, Müller JA*, Koepke L, Sparrer KMJ, Weil T, Schütz D, Seufferlein T, Barth TFE, Stenger S, Heller S, Kleger A, Münch J: Drug inhibition of SARS-CoV-2 replication in human pluripotent stem cell-derived intestinal organoids. **Cell. Mol. Gastroenterol. Hepatol**, 11(4):935-948, doi.org/10.1016/j.jcmgh.2020.11.003 (2020)
 26. Conzelmann C*, Groß R*, Meister TL*, Todt D, Krawczyk A, Dittmer U, Stenger S, Münch J, Steinmann E, Müller JA, Pfaender S: Pasteurization Inactivates SARS-CoV-2 Spiked Breast Milk. **Pediatrics**, 147(1):e2020031690, doi.org/10.1542/peds.2020-031690(2020)
 27. Groß R, Conzelmann C, Müller JA, Reister F, Kirchhoff F, and Münch J: Undermining breastfeeding will not alleviate the COVID-19 pandemic – Authors' reply. **The Lancet**, 396(10257):1065-1066, doi.org/10.1016/S0140-6736(20)32066-3 (2020)
 28. Nchioua R, Kmiec D, Mueller J, Conzelmann C, Groß R, Swanson CM, Neil S, Stenger S, Sauter D, Muench J, Sparrer KM, Kirchhoff F: SARS-CoV-2 Is Restricted by Zinc Finger Antiviral Protein despite Preadaptation to the Low-CpG Environment in Humans. **mBio**, 11(5):e01930-20, doi.org/10.1128/mBio.01930-20 (2020)

29. Weil T*, Groß R*, Röcker A*, Bravo-Rodriguez K*, Heid C, Sowislok A, Le MH, Erwin N, Dwivedi M, Bart S, Bates P, Wettstein L, Müller J, Harms M, Sparrer K, Ruiz-Blanco YB, Stuerzel C, von Einem J, Lippold S, Read C, Walther P, Hebel M, Kreppel F, Klärner FG, Bitan G, Ehrmann M, Weil T, Winter R, Schrader T, Shorter J, Sanchez-Garcia E, and Muench J: Supramolecular Mechanism of Viral Envelope Disruption by Molecular Tweezers. **JACS**, 142(40):17024-17038, doi.org/10.1021/jacs.0c06400 (2020)
30. Michel D, Danzer KM, Groß R, Conzelmann C, Müller JA, Freischmidt A, Weishaupt JH, Heller S, Münch J, Michel M, Stamminger T, Kleger A, and Otto M: Rapid, convenient and efficient kit-independent detection of SARS-CoV-2 RNA. **J. Virol. Methods**, 286:113965 doi.org/10.1016/j.jviromet.2020.113965 (2020)
31. Conzelmann C*, Groß R*, Zou M, Krüger F, Görgens A, Gustafsson MO, El Andaloussi S, Münch J, and Müller JA: Salivary extracellular vesicles inhibit Zika virus but not SARS-CoV-2 infection. **J. Extracell. Vesicles**, 9(1):1808281, doi.org/10.1080/20013078.2020.1808281 (2020)
32. Meister TL, Brüggemann Y, Todt D, Conzelmann C, Müller JA, Groß R, Münch J, Krawczyk A, Steinmann JJ, Steinmann JJ, Pfaender S, and Steinmann E: Virucidal Efficacy of Different Oral Rinses Against Severe Acute Respiratory Syndrome Coronavirus 2. **J. Infect. Dis.**, 222(8):1289-1292, doi.org/10.1093/infdis/jiaa471 (2020)
33. Conzelmann C, Gilg A, Groß R, Schütz D, Preising N, Ständker L, Jahrsdörfer B, Schrezenmeier H, Sparrer KMJ, Stamminger T, Stenger S, Münch J, and Müller JA: An enzyme-based immunodetection assay to quantify SARS-CoV-2 infection. **Antiviral. Res.**, 181:104882, doi.org/10.1016/j.antiviral.2020.104882 (2020)
34. Groß R*, Conzelmann C*, Müller JA*, Stenger S, Steinhart K, Kirchhoff F, and Münch J: Detection of SARS-CoV-2 in human breastmilk. **The Lancet**, 395(10239):1757-1758, doi.org/10.1016/S0140-6736(20)31181-8 (2020)
35. Groß R*, Bauer R*, Krüger F*, Rucker-Braun E*, Olari L-R, Ständker L, Preising N, Rodríguez AA, Conzelmann C, Gerbl F, Sauter D, Kirchhoff F, Hagemann B, Gačanin J, Weil T, Ruiz-Blanco YB, Sanchez-Garcia E, Forssmann W-G, Mankertz A, Santibanez S, Stenger S, Walther P, Wiese S, Spellerberg B, Münch J: A Placenta Derived C-Terminal Fragment of β -Hemoglobin With Combined Antibacterial and Antiviral Activity. **Front. Microbiol.**, 11:508, doi.org/10.3389/fmicb.2020.00508 (2020)
36. Conzelmann C, Zou M, Groß R, Harms M, Röcker A, Riedel CU, Münch J, Müller JA: Storage-Dependent Generation of Potent Anti-ZIKV Activity in Human Breast Milk. **Viruses**, 11(7):591, doi.org/10.3390/v11070591 (2019)
37. Braun E, Hotter D, Koepke L, Zech F, Groß R, Sparrer KMJ, Müller JA, Pfaller CK, Heusinger E, Wombacher R, Sutter K, Dittmer U, Winkler M, Simmons G, Jakobsen MR, Conzelmann KK, Pöhlmann S, Münch J, Fackler OT, Kirchhoff F, and Sauter D: Guanylate-Binding Proteins 2 and 5 Exert Broad Antiviral Activity by Inhibiting Furin-Mediated Processing of Viral Envelope Proteins. **Cell Rep.**, 27(7):2092-2104.e10, doi.org/10.1016/j.celrep.2019.04.063 (2019)
38. Denzinger M, Staendker L, Ehlers K, Schneider JM, Schulz T, Hein T, Wiese S, Roecker A, Groß R, Münch J, Bracht H, Barth E, Weiss M, Georgieff M, Schneider EM: Bioassay for Endothelial Damage Mediators Retrieved by Hemoadsorption. **Sci. Rep.**, 9(1):14522, doi.org/10.1038/s41598-019-50517-1 (2019)
39. Lippold S, Braun B, Krüger F, Harms M, Müller JA, Groß R, Münch J, and von Einem J: Natural inhibitor of human cytomegalovirus in human seminal plasma. **J.Virol.**, 93(6):e01855-18, doi.org/10.1128/JVI.01855-18 (2018)
40. Müller JA, Harms M, Krüger F, Groß R, Joas S, Hayn M, Dietz AN, Lippold S, von Einem J, Schubert A, Michel M, Mayer B, Cortese M, Jang KS, Sandi-Monroy N, Deniz M, Ebner F, Vapalahti O, Otto M, Bartenschlager R, Herbeuval JP, Schmidt-Chanasit J, Roan NR, Münch J: Semen inhibits Zika virus infection of cells and tissues from the anogenital region. **Nat. Commun.**, 9(1):2207, doi.org/10.1038/s41467-018-04442-y (2018)
41. Armacki M, Trugenberger AK, Ellwanger AK, Eiseler T, Schwerdt C, Bettac L, Langgartner D, Azoitei N, Halbgebauer R, Groß R, Barth T, Lechel A, Walter BM, Kraus JM, Wiegrefe C,

Grimm J, Scheffold A, Schneider MR, Peuker K, Zeißig S, Britsch S, Rose-John S, Vettorazzi S, Wolf E, Tannapfel A, Steinestel K, Reber SO, Walther P, Kestler HA, Radermacher P, Barth TFE, Huber-Lang M, Kleger A, Seufferlein T: Thirty-eight-negative kinase 1 mediates trauma-induced intestinal injury and multi-organ failure. **J. Clin. Invest.**, 128(11):5056-5072, doi.org/10.1172/JCI97912. (2018)