

Curriculum Vitae Prof. Dr. Marcus A. Mall

Professor und Direktor der Klinik für Pädiatrie m. S. Pneumologie, Immunologie und Intensivmedizin

Ärztlicher Centrumsleiter des CharitéCentrum 17 für Frauen-, Kinder- und Jugendmedizin mit Perinatalzentrum und Humangenetik
Charité - Universitätsmedizin Berlin



Akademischer und beruflicher Werdegang

- Seit 2020 Ärztlicher Centrumsleiter des CharitéCentrum 17 für Frauen-, Kinder- und Jugendmedizin mit Perinatalzentrum und Humangenetik
- Seit 2018 W3-Professur für Pädiatrische Pneumologie und Immunologie und Direktor der Klinik für Pädiatrie m. S. Pneumologie, Immunologie und Intensivmedizin & Mukoviszidose-Zentrum, Charité - Universitätsmedizin Berlin
- Seit 2018 BIH-Professur, Berlin Institute of Health (BIH)
- 2012 – 2018 Direktor des Zentrums für Translationale Lungenforschung (TLRC) und der Abteilung für Translationale Pneumologie, Universität Heidelberg
- 2009 – 2018 W3-Professur und Leitung der Sektion für Pädiatrische Pneumologie & Allergologie und Mukoviszidose-Zentrum, Zentrum für Kinderheilkunde und Jugendmedizin, Universität Heidelberg
- 2009 – 2012 W3-Heisenberg-Professur für Translationale Pädiatrische Pneumologie
- 2007 – 2009 Oberarzt und Leiter des Mukoviszidose-Zentrums, Zentrum für Kinderheilkunde und Jugendmedizin, Universität Heidelberg
- 2007 Habilitation am Zentrum für Kinderheilkunde und Jugendmedizin, Universität Heidelberg
- 2006 – 2018 Gruppenleiter der Molecular Medicine Partnership Unit (MMPU) der Universität Heidelberg und des European Molecular Biology Laboratory (EMBL)
- 2006 – 2018 Fakultätsmitglied der Hartmut Hoffmann-Berling International Graduate School of Molecular & Cellular Biology Heidelberg (HBIGS)
- 2005 – 2009 Gruppenleiter der EU-geförderten Nachwuchsgruppe „Mukoviszidose/ Chronische Atemwegserkrankung“ (Marie Curie Excellence Team)
- 2004 – 2006 Wissenschaftlicher Mitarbeiter und Assistenzarzt, Zentrum für Kinderheilkunde und Jugendmedizin, Universität Heidelberg
- 2003 – 2004 Assistant Professor, Cystic Fibrosis/Pulmonary Research and Treatment Center, School of Medicine, University of North Carolina at Chapel Hill, Chapel Hill, NC, USA
- 2000 – 2003 Postdoc am Cystic Fibrosis/Pulmonary Research and Treatment Center, School of Medicine, University of North Carolina at Chapel Hill, Chapel Hill, NC, USA

- 1997 – 2000 Wissenschaftlicher Mitarbeiter und Assistenzarzt, Universitätskinderklinik, Universität Freiburg
- 1997 Promotion an der Universität Freiburg
- 1990 – 1997 Studium an der Universität Freiburg und am University College London School of Medicine (UCL), Vereinigtes Königreich

Klinische Qualifikationen

- 2017 Zusatzweiterbildung Allergologie
- 2011 Zusatzweiterbildung Infektiologie
- 2008 Zusatzweiterbildung Kinderpneumologie
- 2006 Facharzt für Kinder- und Jugendmedizin

Funktionen in wissenschaftlichen Gesellschaften und Gremien

- 2018 - 2020 Vize-Präsident der European Cystic Fibrosis Society (ECFS)
- 2017 - 2018 Chair und Co-Chair der ECFS Basic Science Conference
- Seit 2017 Mitglied des Programmkomitees der North American Cystic Fibrosis Conference (NACFC)
- 2016 Tagungspräsident der 19. Deutschen Mukoviszidose Tagung, Würzburg
- Seit 2015 Mitglied des wissenschaftlichen Beirats des SickKids-Cystic Fibrosis Canada Program for Individualized CF Therapy (CFIT), Toronto, Kanada
- 2014 -2020 Mitglied des Vorstands der European Cystic Fibrosis Society (ECFS)
- 2011 Vize-Präsident der 34. ECFS-Konferenz, Hamburg
- 2009 – 2012 Mitglied des ECFS Conference Scientific Steering Committee
- 2006 – 2012 Gewähltes Mitglied (2006-2009) und Vorsitzender (2010-2012) der Forschungsgemeinschaft Mukoviszidose (FGM) im Mukoviszidose e.V.

Projektkoordination, Mitgliedschaft in Verbundprojekten

- Seit 2021 Koordinator des Standorts Berlin im Deutschen Zentrum für Kinder- und Jugendgesundheit (DZKJ)
- Seit 2021 Stellvertretender Sprecher des SFB 1449 „Dynamische Hydrogele auf biologischen Grenzflächen“
- Seit 2019 Konsortialführung und Sprecher des Innovationsfonds-Projekts „conneCT CF: Coaching und Telemonitoring für Patienten mit Cystischer Fibrose“
- 2018 - 2022 Projektleiter des SFB-TR 84 „Angeborene Immunität der Lunge: Mechanismen des Pathogenangriffs und der Wirtsabwehr in der Pneumonie“
- 2013-2016 Projektleiter des EU-Verbundprojekts CFMATTERS: Cystic Fibrosis Microbiome-determined Antimicrobial Therapy Trial in Exacerbations: Results Stratified (7. Rahmenprogramm)

- Seit 2012 Sprecher des Krankheitsfelds Mukoviszidose im Deutsches Zentrum für Lungenforschung (DZL)
- 2011 – 2018 Gründungsdirektor und Vorstandsmitglied des Deutsches Zentrums für Lungenforschung (DZL)
- 2009 – 2015 Projektleiter des BMBF-Verbundprojekts CARPuD: Netzwerk zellbasierte Verfahren für seltene Lungenerkrankungen

Ehrungen & Auszeichnungen

- 2020 Adalbert-Czerny-Preis der Deutschen Gesellschaft für Kinder- und Jugendmedizin (DGKJ)
- 2020 ERS Excellence Award for Research in Cystic Fibrosis
- 2018 Einstein-Professur, Einstein-Stiftung Berlin
- 2017 Fellow of ERS (FERS)
- 2009 Heisenberg-Professur für Translationale Pädiatrische Pulmologie, Deutsche Forschungsgemeinschaft (DFG)
- 2009 Forschungspreis der Deutschen Gesellschaft für Pneumologie (DGP)
- 2005 Marie Curie Excellence Grant (EU 6. Rahmenprogramm))
- 2005 Johannes Wenner Preis der Deutschen Gesellschaft für Pädiatrische Pneumologie (GPP)
- 2005 Professor David Shmerling Forschungspreis, Deutsche Gesellschaft für Pädiatrische Gastroenterologie und Ernährung (GPGE)
- 2000 Forschungsstipendium, Deutsche Forschungsgemeinschaft (DFG)
- 1998 Albrecht Fleckenstein Nachwuchspreis der Universität Freiburg
- 1997 Adolf Windorfer Preis für Mukoviszidoseforschung, Mukoviszidoses e.V.
- 1994 – 1997 Stipendium der Studienstiftung des deutschen Volkes
- 1993 – 1994 Stipendium des Deutschen Akademischen Austauschdienstes (DAAD)

Mitgliedschaft in Fachgesellschaften

- Seit 2019 Fleischner Society
- Seit 2010 European Respiratory Society (ERS)
- Seit 2010 Deutsche Gesellschaft für Pneumologie (DGP)
- Seit 2006 American Thoracic Society (ATS)
- Seit 2004 Bundesverband Cystische Fibrose (Mukoviszidose e.V.)
- Seit 1999 European Cystic Fibrosis Society (ECFS)
- Seit 1998 Deutsche Physiologische Gesellschaft (DPG)
- Seit 1998 Deutsche Gesellschaft für Kinder- und Jugendmedizin (DGKJ)
- Seit 1998 Gesellschaft für Pädiatrische Pneumologie (GPP)

Publikationen

Originalarbeiten

Rohrich M, Leitz D, Glatting FM, Wefers AK, Weinheimer O, Flechsig P, Kahn N, **Mall MA**, Giesel FL, Kratochwil C, Huber PE, von Deimling A, Heussel CP, Kauczor HU, Kreuter M, Haberkorn UA. Fibroblast Activation Protein specific PET/CT imaging in fibrotic interstitial lung diseases and lung cancer: a translational exploratory study. *J Nucl Med* 2022; 63:127-133.

Georg P, Astaburuaga-Garcia R, Bonaguro L, Brumhard S, Michalick L, Lippert LJ, Kostevc T, Gabel C, Schneider M, Streitz M, Demichev V, Gemund I, Barone M, Tober-Lau P, Helbig ET, Hillus D, Petrov L, Stein J, Dey HP, Paclik D, Iwert C, Mulleder M, Aulakh SK, Djudjaj S, Bulow RD, Mei HE, Schulz AR, Thiel A, Hippenstiel S, Saliba AE, Eils R, Lehmann I, **Mall MA**, Stricker S, Rohmel J, Corman VM, Beule D, Wyler E, Landthaler M, Obermayer B, von Stillfried S, Boor P, Demir M, Wesselmann H, Suttorp N, Uhrig A, Muller-Redetzky H, Nattermann J, Kuebler WM, Meisel C, Ralser M, Schultze JL, Aschenbrenner AC, Thibeault C, Kurth F, Sander LE, Bluthgen N, Sawitzki B, Group P-C-S. Complement activation induces excessive T cell cytotoxicity in severe COVID-19. *Cell* 2021. [Epub ahead of print].

Ruf S, Hommes F, van Loon W, Seybold J, Kurth T, **Mall MA**, Mockenhaupt FP, Theuring S. A Retrospective Outbreak Investigation of a COVID-19 Case Cluster in a Berlin Kindergarten, November 2020. *Int J Environ Res Public Health* 2021;19:36.

Graeber SY, Vitzthum C, Pallenberg ST, Naehrlich L, Stahl M, Rohrbach A, Drescher M, Minso R, Ringshausen FC, Rueckes-Nilges C, Klajda J, Berges J, Yu Y, Scheuermann H, Hirtz S, Sommerburg O, Dittrich AM, Tummeler B, **Mall MA**. Effects of Elexacaftor/Tezacaftor/Ivacaftor Therapy on CFTR Function in Patients with Cystic Fibrosis and One or Two F508del Alleles. *Am J Respir Crit Care Med* 2021. [Epub ahead of print].

Metzger MI, Graeber SY, Stahl M, Sommerburg O, **Mall MA**, Dalpke AH, Boutin S. A Volatile and Dynamic Longitudinal Microbiome Is Associated With Less Reduction in Lung Function in Adolescents With Cystic Fibrosis. *Front Cell Infect Microbiol* 2021;11:763121.

Sutharsan S, McKone EF, Downey DG, Duckers J, MacGregor G, Tullis E, Van Braeckel E, Wainwright CE, Watson D, Ahluwalia N, Bruinsma BG, Harris C, Lam AP, Lou Y, Moskowitz SM, Tian S, Yuan J, Waltz D, **Mall MA**, group VXs. Efficacy and safety of elexacaftor plus tezacaftor plus ivacaftor versus tezacaftor plus ivacaftor in people with cystic fibrosis homozygous for F508del-CFTR: a 24-week, multicentre, randomised, double-blind, active-controlled, phase 3b trial. *Lancet Respir Med* 2021. [Epub ahead of print].

Barry PJ, **Mall MA**, Polineni D, Group VXS. Triple Therapy for Cystic Fibrosis Phe508del-Gating and -Residual Function Genotypes. Reply. *N Engl J Med* 2021;385:2208.

Hey J, Paulsen M, Toth R, Weichenhan D, Butz S, Schatterny J, Liebers R, Lutsik P, Plass C*, **Mall MA***. Epigenetic reprogramming of airway macrophages promotes polarization and inflammation in muco-obstructive lung disease. *Nat Commun* 2021;12:6520. (*equal contribution)

van Loon W, Hommes F, Theuring S, von der Haar A, Korner J, Schmidt M, von Kalle C, **Mall MA**, Seybold J, Kurth T, Mockenhaupt FP. Renewed absence of SARS-CoV-2 infections in the day care context in Berlin, January 2021. *Clin Infect Dis* 2021;73:1944-1945.

Sommerburg O, Stahl M, Hammerling S, Gramer G, Muckenthaler MU, Okun J, Kohlmüller D, Happich M, Kulozik AE, **Mall MA***, Hoffmann GF*. Final results of the southwest German pilot study on cystic fibrosis newborn screening - Evaluation of an IRT/PAP protocol with IRT-dependent safety net: Results of the Southwest German CFNBS pilot study. *J Cyst Fibros* 2021. [Epub ahead of print]. (*equal contribution)

Rickert-Zacharias V, Schultz M, **Mall MA**, Schultz C. Visualization of Ectopic Serine Protease Activity by Förster Resonance Energy Transfer-Based Reporters. *ACS Chem Biol* 2021; 16:2174-2184.

Witkowski M, Tizian C, Ferreira-Gomes M, Niemeyer D, Jones TC, Heinrich F, Frischbutter S, Angermair S, Hohnstein T, Mattiola I, Nawrath P, Mc Ewen S, Zocche S, Viviano E, Heinz GA, Maurer M, Kolsch U, Chua RL, Aschman T, Meisel C, Radke J, Sawitzki B, Roehmel J, Allers K, Moos V, Schneider T, Hanitsch L, **Mall MA**, Conrad C, Radbruch H, Duerr CU, Trapani JA, Marcenaro E, Kallinich T, Corman VM, Kurth F, Sander LE, Drosten C, Treskatsch S, Durek P, Kruglov A, Radbruch A, Mashreghi MF, Diefenbach A. Untimely TGFβ responses in COVID-19 limit antiviral functions of NK cells. *Nature* 2021;600:295-301.

de Poel E, Spelier S, Suen SWF, Kruisselbrink E, Graeber SY, **Mall MA**, Weersink EJM, van der Eerden MM, Koppelman GH, van der Ent CK, Beekman JM. Functional Restoration of CFTR Nonsense Mutations in Intestinal Organoids. *J Cyst Fibros* 2021. [Epub ahead of print].

Schulze J, Mache C, Balazs A, Frey D, Niemeyer D, Olze H, Dommerich S, Drosten C, Hocke AC, **Mall MA**, Hippenstiel S, Wolff T. Analysis of SARS-CoV-2 replication in explant cultures of the human upper respiratory tract reveals broad tissue tropism of wild-type and B.1.1.7 variant viruses. *J Infect Dis* 2021;224:2020-2024.

Thielecke M, Theuring S, van Loon W, Hommes F, **Mall MA**, Rosen A, Bohringer F, von Kalle C, Kirchberger V, Kurth T, Seybold J, Mockenhaupt FP, group Bs. SARS-CoV-2 infections in kindergartens and associated households at the start of the second wave in Berlin, Germany - a cross sectional study. *Eur J Public Health* 2021;31:1105-1107.

Loyal L, Braun J, Henze L, Kruse B, Dingeldey M, Reimer U, Kern F, Schwarz T, Mangold M, Unger C, Dorfler F, Kadler S, Rosowski J, Gurcan K, Uyar-Aydin Z, Frentsch M, Kurth F, Schnatbaum K, Eckey M, Hippenstiel S, Hocke A, Müller MA, Sawitzki B, Miltenyi S, Paul F, **Mall MA**, Wenschuh H, Voigt S, Drosten C, Lauster R, Lachman N, Sander LE, Corman VM, Rohmel J, Meyer-Arndt L, Thiel A, Giesecke-Thiel C. Cross-reactive CD4(+) T cells enhance SARS-CoV-2 immune responses upon infection and vaccination. *Science* 2021;374:eabh1823.

Sharma A, Thongrom B, Bhatia S, von Lospichl B, Addante A, Graeber SY, Lauster D, **Mall MA**, Gradzielski M, Haag R. Polyglycerol-Based Mucus-Inspired Hydrogels. *Macromol Rapid Commun* 2021:e2100303;42:e2100303.

Stahl M, Steinke E, Graeber SY, Joachim C, Seitz C, Kauczor HU, Eichinger M, Hammerling S, Sommerburg O, Wielputz MO*, **Mall MA***. Magnetic Resonance Imaging Detects Progression of Lung Disease and Impact of Newborn Screening in Preschool Children with Cystic Fibrosis. *Am J Respir Crit Care Med* 2021;204:943-953. (*equal contribution)

Chung J, Wunnemann F, Salomon J, Boutin S, Frey DL, Albrecht T, Joachim C, Eichinger M, **Mall MA**, Wielputz MO, Sommerburg O. Increased Inflammatory Markers Detected in Nasal Lavage Correlate with Paranasal Sinus Abnormalities at MRI in Adolescent Patients with Cystic Fibrosis. *Antioxidants (Basel)* 2021;10.

van Loon W, Theuring S, Hommes F, **Mall MA**, Seybold J, Kurth T, Mockenhaupt FP. Prevalence of SARS-CoV-2 Infections Among Students, Teachers, and Household Members During Lockdown and Split Classes in Berlin, Germany. *JAMA Netw Open* 2021;4:e2127168.

Gertler M, Krause E, van Loon W, Krug N, Kausch F, Rohardt C, Rossig H, Michel J, Nitsche A, **Mall MA**, Nikolai O, Hommes F, Burock S, Lindner AK, Mockenhaupt FP, Pison U, Seybold J. Self-collected oral, nasal and saliva samples yield sensitivity comparable to professionally collected oro-nasopharyngeal swabs in SARS-CoV-2 diagnosis among symptomatic outpatients. *Int J Infect Dis* 2021;110:261-266.

Frey DL, Boutin S, Dittrich SA, Graeber SY, Stahl M, Wege S, Herth FJF, Sommerburg O, Schultz C, **Mall MA***, Dalpke AH*. Relationship between airway dysbiosis, inflammation and lung function in adults with cystic fibrosis. *J Cyst Fibros* 2021;20:754-760. (*equal contribution)

Schroder A, Lunding LP, Zissler UM, Vock C, Webering S, Ehlers JC, Orinska Z, Chaker A, Schmidt-Weber CB, Lang NJ, Schiller HB, **Mall MA**, Fehrenbach H, Dinarello CA, Wegmann M. IL-37 regulates allergic inflammation by counterbalancing pro-inflammatory IL-1 and IL-33. *Allergy* 2021. [Epub ahead of print].

Loske J, Rohmel J, Lukassen S, Stricker S, Magalhaes VG, Liebig J, Chua RL, Thurmann L, Messingschlager M, Seegebarth A, Timmermann B, Klages S, Ralser M, Sawitzki B, Sander LE, Corman VM, Conrad C, Laudi S, Binder M*, Trump S*, Eils R*, **Mall MA***, Lehmann I*. Pre-activated antiviral innate immunity in the upper airways controls early SARS-CoV-2 infection in children. *Nat Biotechnol* 2021. [Epub ahead of print]. (*equal contribution)

Goss CH, Fajac I, Jain R, Seibold W, Gupta A, Hsu MC, Sutharsan S, Davies JC, **Mall MA**. Efficacy and safety of inhaled ENaC inhibitor BI 1265162 in patients with cystic fibrosis: BALANCE-CF 1 - a randomised, Phase II study. *Eur Respir J* 2021. [Epub ahead of print].

Theuring S, Thielecke M, van Loon W, Hommes F, Hulso C, von der Haar A, Korner J, Schmidt M, Bohringer F, **Mall MA**, Rosen A, von Kalle C, Kirchberger V, Kurth T, Seybold J, Mockenhaupt FP, Group BS. SARS-CoV-2 infection and transmission in school settings during the second COVID-19 wave: a cross-sectional study, Berlin, Germany, November 2020. *Euro Surveill* 2021;26:2100184.

Terliesner N, Rosen A, Kaindl AM, Reuter U, Lippold K, **Mall MA**, von Bernuth H, Gratopp A. Maintenance of Elective Patient Care at Berlin University Children's Hospital During the COVID-19 Pandemic. *Front Pediatr* 2021;9:694963.

Barry PJ*, **Mall MA***, Alvarez A, Colombo C, de Winter-de Groot KM, Fajac I, McBennett KA, McKone EF, Ramsey BW, Sutharsan S, Taylor-Cousar JL, Tullis E, Ahluwalia N, Jun LS, Moskowitz SM, Prieto-Centurion V, Tian S, Waltz D, Xuan F, Zhang Y, Rowe SM, Polineni D, Group VXS. Triple Therapy for Cystic Fibrosis Phe508del-Gating and -Residual Function Genotypes. *N Engl J Med* 2021;385:815-825. (*equal contribution)

Meisel C, Akbil B, Meyer T, Lankes E, Corman VM, Staudacher O, Unterwalder N, Kolsch U, Drosten C, **Mall MA**, Kallinich T, Schnabel D, Goffinet C, von Bernuth H. Mild COVID-19 despite autoantibodies to type I IFNs in Autoimmune-Polyendocrine-Syndrome Type 1 (APS-1). *J Clin Invest* 2021;131:e150867.

Hagner M, Albrecht M, Guerra M, Braubach P, Halle O, Zhou-Suckow Z, Butz S, Jonigk D, Hansen G, Schultz C, Dittrich AM*, **Mall MA***. IL-17A from innate and adaptive lymphocytes contributes to inflammation and damage in cystic fibrosis lung disease. *Eur Respir J* 2021;57. (*equal contribution)

Engelmann TA, Knudsen L, Leitz DHW, Duerr J, Beers MF, **Mall MA**, Ochs M. Linking Fibrotic Remodeling and Ultrastructural Alterations of Alveolar Epithelial Cells after Deletion of *Nedd4-2*. *Int J Mol Sci* 2021;22:7607.

Zemanick ET, Taylor-Cousar JL, Davies J, Gibson RL, **Mall MA**, McKone EF, McNally P, Ramsey BW, Rayment JH, Rowe SM, Tullis E, Ahluwalia N, Chu C, Ho T, Moskowitz SM, Noel S, Tian S, Waltz D, Weinstock TG, Xuan F, Wainwright CE, McColley SA. A Phase 3 Open-Label Study of Elexacaftor/Tezacaftor/Ivacaftor in Children 6 through 11 Years of Age with Cystic Fibrosis and at Least One F508del Allele. *Am J Respir Crit Care Med* 2021;203:1522-1532.

Leitz DHW, Duerr J, Mulugeta S, Agircan AS, Zimmermann S, Kawabe H, Dalpke AH, Beers MF, **Mall MA**. Congenital Deletion of *Nedd4-2* in Lung Epithelial Cells Causes Progressive Alveolitis and Pulmonary Fibrosis in Neonatal Mice. *International Journal of Molecular Sciences* 2021;22:6146.

Graeber SY, Boutin S, Wielputz MO, Joachim C, Frey DL, Wege S, Sommerburg O, Kauczor HU, Stahl M, Dalpke AH, **Mall MA**. Effects of Lumacaftor-Ivacaftor on Lung Clearance Index, Magnetic Resonance Imaging, and Airway Microbiome in Phe508del Homozygous Patients with Cystic Fibrosis. *Ann Am Thorac Soc* 2021;18:971-980.

Frey DL, Guerra M, **Mall MA**, Schultz C. Monitoring Neutrophil Elastase and Cathepsin G Activity in Human Sputum Samples. *J Vis Exp* 2021.

Thee S, Stahl M, Fischer R, Sutharsan S, Ballmann M, Muller A, Lorenz D, Urbanski-Rini D, Puschner F, Amelung VE, Fuchs C, **Mall MA**. A multi-centre, randomized, controlled trial on coaching and telemonitoring in patients with cystic fibrosis: connect CF. *BMC Pulm Med* 2021;21:131.

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Sommerburg O, Hammerling S, Schneider SP, Okun J, Langhans CD, Leutz-Schmidt P, Wielputz MO, Siems W, Graber SY, **Mall MA***, Stahl M*. CFTR Modulator Therapy with Lumacaftor/Ivacaftor Alters Plasma Concentrations of Lipid-Soluble Vitamins A and E in Patients with Cystic Fibrosis. *Antioxidants (Basel)* 2021;10:483. (*equal contribution)

Hommel F, van Loon W, Thielecke M, Abramovich I, Lieber S, Hammerich R, Gehrke-Beck S, Linzbach E, Schuster A, von dem Busche K, Theuring S, Gertler M, Martinez GE, Richter J, Bergmann C, Bolke A, Bohringer F, **Mall MA**, Rosen A, Krannich A, Keller J, Bethke N, Kurzmann M, Kurth T, Kirchberger V, Seybold J, Mockenhaupt FP, Study Group B. SARS-CoV-2 Infection, Risk Perception, Behaviour and Preventive Measures at Schools in Berlin, Germany, during the Early Post-Lockdown Phase: A Cross-Sectional Study. *Int J Environ Res Public Health* 2021;18:2739.

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Griese M, Costa S, Linnemann RW, **Mall MA**, McKone EF, Polineni D, Quon BS, Ringshausen FC, Taylor-Cousar JL, Withers NJ, Moskowitz SM, Daines CL. Safety and Efficacy of Elexacaftor/Tezacaftor/Ivacaftor for 24 Weeks or Longer in People with Cystic Fibrosis and One or More F508del Alleles: Interim Results of an Open-Label Phase 3 Clinical Trial. *Am J Respir Crit Care Med* 2021;203:381-385.

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for the F508del mutation. *Am J Respir Crit Care Med* 2020;202:1589-1592. (*equal contribution)

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