

Application

- DZL Principal Investigator** (Applicant is affiliated with DZL Member Institution)
 DZL Associated Principal Investigator (Applicant is affiliated with DZL Associated Partner Institution or other external Institution)

Name, Title, Date of Birth

Prof. Dr. Dr. Christian Michael Grimm, 270275

Contact Information (address, phone, email) and Current positions

- Walther Straub Institute of Pharmacology and Toxicology, Faculty of Medicine, Ludwig-Maximilians-Universität (LMU) München**
Nussbaumstr. 26, 80336 München, Germany
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- Fraunhofer Institute for Translational Medicine and Pharmacology ITMP, Section of Immunology, Infection and Pandemic Research IIP, Frankfurt/Munich, Germany**
Email FhG ITMP/IIP Munich: christian.grimm@itmp.fraunhofer.de
- Department of Pharmacology, University of Oxford, Mansfield Rd, Oxford OX1 3QT, United Kingdom**
Email University of Oxford: christian.grimm@pharm.ox.ac.uk

Positions & Employment

2025-present	Full Professor of Organelle Biology and Pharmacology, Department of Pharmacology, Faculty of Medicine, University of Oxford, UK
2022-present	PI and Head of Pharmacology/Immunology Department, Fraunhofer Institute for Translational Medicine and Pharmacology (ITMP), Immunology, Infection and Pandemic Research (IIP), Frankfurt/München/Penzberg, Germany
2018-present	Associate Professor of Molecular Pharmacology (tenured since 2022), Walther Straub Institute of Pharmacology and Toxicology, Faculty of Medicine, LMU München, Germany
2015-2018	“Privatdozent” (Assistant Prof. eq.) and Group Leader, Department of Pharmacy/Pharmacology, Faculty of Chem. & Pharm., LMU München, Germany
2011-2015	Lecturer (“Habilitation”) and Group Leader, Department of Pharmacy/Pharmacology, Faculty of Chem. & Pharm., LMU München, Germany (Prof. Dr. Martin Biel)
2009-2011	Principal Scientist (Group Leader), Pain Research Unit - Discovery Biology, Pfizer Ltd. Global R&D, Sandwich, Kent, United Kingdom
2005-2009	Post-Doc, Department of Otolaryngology - Head & Neck Surgery and Molecular & Cellular Physiology, Medical School, Stanford University, CA, USA (Prof. Dr. Stefan Heller)
2004-2005	Post-Doc, Department of Otolaryngology and Program in Neuroscience, Massachusetts Eye & Ear Infirmary, Medical School, Harvard University, Boston, MA, USA (Prof. Dr. Stefan Heller)

Education & Degrees

2015	Habilitation (Dr. rer. nat. habil.) and Venia legendi in Pharmacology, LMU München, Germany
2011	Ph.D. (Dr. phil. in Philosophy; magna cum laude), Universität Kassel, Germany and Max-Planck-Institute for the History of Science, Berlin (Mentors: Prof. Dr. Dr. Kristian Köchy (Kassel) and Prof. Dr. Dr. Hans-Jörg Rheinberger (MPI))
2004	Ph.D. (Dr. rer. nat. in Pharmacology; summa cum laude), Freie Universität (FU) Berlin, Germany (Mentors: PD Dr. Christian Harteneck and Prof. Dr. Günter Schultz)
2001-2004	Graduate research at the Institute of Pharmacology, School of Medicine, Freie Universität (FU) Berlin, Germany
1999/2000	State Examinations (M.Sc. eq.) in Pharmacy, Julius-Maximilians-Universität Würzburg and Universität Regensburg, Germany
1995-2000	Studies of Pharmaceutical Sciences, Julius-Maximilians-Universität Würzburg and 6-month internship at Bayer AG Leverkusen (Pharmaceutical R&D), Germany
2025	Appointment as Full Professor of Organelle Biology and Pharmacology, University of Oxford, UK (accepted)
2020	Primo loco/rank 1 for a Full Professorship (W3) for Pathophysiology of Nutritional Diseases, University of Potsdam, Germany (declined)
2020	Primo loco/rank 1 for a Full Professorship (W3) and Director position at the Department of Physiology II, Faculty of Medicine, University of Bonn, Germany (declined)
2018	Appointment as tenure-track Professor (W2-tt) of Molecular Pharmacology, Walther Straub Institute of Pharmacology and Toxicology, Faculty of Medicine, LMU München, Germany (accepted)
2018	Primo loco/rank 1 for an Associate Professorship in Physiology, Department of Physiology, Faculty of Medicine, University of Zürich, Switzerland (terminated)
2017	Primo loco/rank 1 for a tenure-track Associate Professorship (W2-tt) for Experimental Pharmacotherapy, Faculty of Medicine, University of Jena, Germany (declined)
2016	Primo loco/rank 1 for a tenure-track Associate Professorship for Clinical and Experimental Medicine, Faculty of Medicine, University of Linköping, Sweden (declined)
2016-2024	Several secondary and tertiary placements (secundo/tertio loco): Innsbruck, Austria (Chair of Pharmacology and Drug Therapy, §98 Full Prof., ranked 3 rd , 2024) Heidelberg/UMM (Pharmacology, Full Prof. W3, ranked 2 nd , 2023) Tübingen (Pharmacogenomics, Full Prof. W3, ranked 2 nd , 2019) Copenhagen, Denmark (Cell Biology, Associate Prof., ranked 2 nd , 2017) Greifswald (Pharmacology, Full Prof. W3, ranked 3 rd , 2016) Oslo, Norway (Cell Biology, Associate Prof., ranked 2 nd , 2016)

Honors and Awards

Care-for-Rare Foundation Award, LMU Munich (2017)

50.000 EUR

NCL (Neuronal ceroid lipofuscinosis) Foundation Award (2016)

50.000 EUR

Ernst-Reuter Award, FU Berlin (for best doctoral thesis at the Faculty of Biology, Chemistry and Pharmacy in 2004)

5000 EUR

Extramural Funding acquired

2026-2028	MJFF T2T Validation - Endolysosomal Targets; Project Title: Toward an Atlas of Endolysosomal System Dysfunction with PD-associated Channels/Transporters Grant ID: MJFF-027533 352.000 USD (258.000 GBP, 270.000 EUR)
2025-2027	Boehringer-Ingelheim Cooperation (BI-FhG-LMU) 480.000 EUR
2024-2027	DFG (German Research Council) Grant GR-4315/7-1 (PI) 458.537 EUR
2024-2027	DFG/ANR (German Research Council/Agence Nationale de la Recherche) Grant GR-4315/6-1 (Co-PI with Dr. Jose-Manuel Cancela, Paris-Saclay) Grimm: 222.833 EUR
2024-2027	Lung Toxicology Research Training Group GRK 2338-2 P08 (Co-PI with Prof. Martin Biel) Grimm: 208.512,92 EUR
2022-2026	SFB1328 (German Research Council) Grant A21 (Co-PI) Grimm: 257.400 EUR
2022-2026	SFB/TRR152 (German Research Council) Grant TP04 (PI) 433.600 EUR
<i>Finished:</i>	
2022-2025	DFG (German Research Council) Grant GR-4315/2-2 (Co-PI with Dr. Karin Bartel) Grimm: 237.125 EUR
2023-2025	ZIM-BMBF Grant KK5633901ML3 (Cooperation with Nanion) Grimm: 191.498 EUR
2022-2023	Boehringer-Ingelheim Cooperation (BI-FhG-LMU) 480.000 EUR
2021-2022	NCL (Neuronal ceroid lipofuscinosis) Foundation grant "Lipidomics analysis of neurodegenerative lysosomal storage disorder iPSC model derived cortical neurons" (PI) 20.000 EUR
2021-2024	Lung Toxicology Research Training Group GRK 2338-2 P08 (Co-PI with Prof. Martin Biel) Grimm: 208.512,92 EUR
2020-2021	NCL (Neuronal ceroid lipofuscinosis) Foundation grant „Investigation of Batten disease phenotypes“ 20.000 EUR
2020-2023	DFG (German Research Council) Grant GR-4315/4-1 (PI) 338.700 EUR
2019-2021	NCL (Neuronal ceroid lipofuscinosis) Foundation and Werner Reichenberger Foundation Grant (PI) 85.800 EUR
2019-2021	DAAD (German Academic Exchange Service) Project 57448707 (Co-PI with Prof. Sui-Yuan Chang, NTU Taipei, Taiwan) Grimm: 11.948 EUR

2019-2021	DAAD/TRF (German Academic Exchange Service and Thailand Research Foundation), Project 57453751 (Co-PI with Prof. Wanchai De-Eknankul, Chulalongkorn University Bangkok, Thailand) Grimm: 7580 EUR
2018-2020	MLIV (Mucopolipidosis type IV) Foundation Grant (Co-PI with Prof. Diego Medina, Telethon Institute, Naples, Italy) Grimm: 81.625,48 EUR
2018-2022	SFB/TRR152 (German Research Council) Grant TP04 (PI) 416.300 EUR
2018-2021	Lung Toxicology Research Training Group GRK 2338-1 P08 (Co-PI with Prof. Martin Biel) Grimm: 208.512,92 EUR
2018-2021	DFG (German Research Council) Grant GR-4315/2-1 (Co-PI with Profs. Martin Biel, Angelika Vollmar, and Franz Bracher) Grimm: 115.270 EUR
2017	Care-for-Rare Foundation Award, LMU Munich (PI) 50.000 EUR
2016-2017	University of Pennsylvania Orphan Disease Center and MLIV (Mucopolipidosis type IV) Foundation Grant (MDBR-17-120-ML4) (PI) 36.052 EUR (40.909 USD)
2016	NCL (Neuronal ceroid lipofuscinosis) Foundation Award (PI) 50.000 EUR
2015	Fritz-Thyssen Foundation Travel Fellowship (to Geneva/CH) 836 EUR
2014-2018	SFB/TRR152 (German Research Council) Grant TP04 (PI) 315.000 EUR
2013-2016	Bavarian Research Foundation Grant (DOK-154-13) (PI) 60.000 EUR
2013-2014	DFG (German Research Council) Grant GR-4315/1-1 (PI); transferred into SFB/TRR152 in 2014 226.550 EUR (transferred into SFB/TRR152 in 2014)
2005	Ernst-Reuter Award, FU Berlin (for best doctoral thesis at the Faculty of Biology, Chemistry and Pharmacy in 2004) 5000 EUR
Total	5.497.193, 24 EUR

Five most important Publications

- Weiden EM*, Serianz Z*, Klingl Y*, Jörs S*, Jašlan D, Keller M, Prat Castro S, Mkhitarian M, Jeridi A, Briukhovetska D, Spix B, Scotto Rosato A, Agami A, Schiller HB, Rajan S, Schredelseker J, Fois G, Frick M, Kobold S, Klein M, Geisler F, Garcia-Fortanet J, Murphy LO, Bracher F, Wahl-Schott C, Gudermann T, Dietrich A, Biel M[#], Yildirim AÖ[#], **Grimm C[#]**: TRPML1 suppresses pulmonary fibrosis by limiting collagen and elastin deposition. *EMBO J* 45(7):2182-2209, 2026.

- Abrahamian C*, Tang R*, Deutsch R*, Ouologuem E-M, Weiden E-M, Kudrina V, Blenninger J, Rilling J, Feldmann C, Kuss S, Stepanov Y, Scotto Rosato A, Calvo G, Soengas M, Mayr D, Fröhlich T, Gudermann T, Biel M, Wahl-Schott C, Chen C-C, Bartel K, **Grimm C[#]**: Rab7a is an enhancer of TPC2 activity regulating melanoma progression through modulation of the GSK3β/β-Catenin/MITF axis. *Nature Commun* 15(1):10008, 2024.

- Spix B, Butz ES, Chen C-C, Scotto Rosato A, Tang, R, Jeridi A, Kudrina V, Plesch E, Wartenberg P, Arlt E, Briukhovetska D, Ansari M, Günes Günsel G, Conlon TM, Wyatt A, Wetzels S, Teupser D, Holdt LM, Ectors F, Boekhoff I, Boehm U, García Añoveros J, Saftig P, Giera M, Kobold S, Schiller HB, Zierler S, Gudermann T, Wahl-Schott C, Bracher F, Yildirim AÖ, Biel, M, **Grimm C[#]**: Lung emphysema and impaired macrophage elastase clearance in mucolin 3 deficient mice. *Nature Commun* 13(1):318, 2022.

- Chen C-C, Krogsaeter EK, Butz E, Li Y, Puertollano R, Wahl-Schott C, Biel M, **Grimm C[#]**: TRPML2 is an osmo-/mechano-sensitive cation channel in endolysosomal organelles. *Science Adv* 6(46):eabb5064, 2020.

- Chen C-C, Chunlei C, Fenske S, Butz E, Chao Y-K, Biel M, Ren D, Wahl-Schott C, **Grimm C[#]**: Patch clamp technique to characterize ion channels in individual intact endolysosomes. *Nature Protoc* 12:1639-1658, 2017.

List of all Publications (separate peer reviewed publications and reviews/book chapters)

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h-Index: 45 (researchgate.net)
Citations: >6000 (>110 publications)
ORCID: 0000-0002-0177-5559

Peer-reviewed scientific articles

- 83. Deutsch, R., Jörs, S., Klingl, Y., Kudrina, V., Menegaz, D., Jašlan, D., Serianz, Z., Vogel, A., Abrahamian, C., Bhunia, S., Tavhelidse-Suck, T., Richter, C., Wirth, A., Urban, N., Northoff, B., Wilfert, W., Klugbauer, N., Bracher, F., Keller, M., Geisler, F., Schaefer, M., Teupser, D., Holdt, L., Belkaya, S., Freichel, M., **Grimm, C.**# (2026) TPC1 activity modulation causes iron overload or deficiency by differentially regulating transferrin uptake and endosomal pH. *PNAS Revision*
- 81. Mu, Q., Saito, R., Ozola, F., Jašlan, D., Zaki, A.-M., Rubio-Alarcon, M., Keller, M., Yuan, Y., Bracher, F., Biggin, P.C., Brailoiu, G., Brailoiu, E., Marchant, J.S., **Grimm, C.**, Lambie, E., Rahman, T., Patel, S. (2026) Remote control of ion selectivity switching in a lysosomal ion channel tempers Ca²⁺ permeability. *EMBO J Revision*
- 80. Mühlbauer, S., Jašlan, D., Duarte Nunesa, I.F., Wutza, L., Mekkaouic, K., Zenkerd, S., Rehberger, J., Rädler, M., Brandt, B., Holzner, L., Tisserant, C., Völkner, C., Bräutigam, A., Robatzek, S., Hause, B., **Grimm, C.**, Kunz, H.-H. (2026) Plastid envelope ion channels (PEC1/2) link Ca²⁺ and jasmonic acid signaling in plant cells. *PNAS Revision*
- 79. Weiden, E.M.*, Serianz, Z.*, Klingl, Y.*, Jörs, S.*, Jašlan, D., Keller, M., Prat Castro, S., Mkhitarian, M., Jeridi, A., Briukhovetska, D., Spix, B., Scotto Rosato, A., Agami, A., Schiller, H.B., Rajan, S., Schredelseker, J., Fois, G., Frick, M., Kobold, S., Klein, M., Geisler, F., Garcia-Fortanet, J., Murphy, L.O., Bracher, F., Wahl-Schott, C., Gudermann, T., Dietrich, A., Biel, M.#, Yildirim, A.Ö.#, **Grimm, C.**# (2026) TRPML1 suppresses pulmonary fibrosis by limiting collagen and elastin deposition. *EMBO J Accepted*
- 78. Schulze, T., Sprave, T., Groebe, C., Krumbach, J., Behringer, M., Hamacher, K., Thiel, G., **Grimm, C.**#, Rauh, O.# (2026) Proton selective conductance and gating of lysosomal cation channel TMEM175. *PNAS* 123(3):e2503909123.
- 77. Pongcho, P., Tang, R., Hairani, R., Abrahamian, C., Netcharoensirisuk, P., Chavasiri, W., Chaotham, C., **Grimm, C.**#, De-Eknamkul, W.# (2025) Polymethoxyflavones from *Kaempferia parviflora* stimulate melanogenesis by blocking TPC2 channel. *Sci. Rep.* 15(1):40344.
- 76. Ouologuem, L., Kübler, A., Ouologuem, S., Hadzic, A., Stöckl, J.B., Siciliano, A.C., Forciniti, S., Nigro, S., luele, H., Onesto, V., Nguyen, A., Matzek, D., Abrahamian, C., **Grimm, C.**, Popper, B., Gigli, G., Del Mercato, L.L., Merkel, O.M., Fröhlich, T., Theurich, S., Bartel, K. (2025) Loss of two-pore channel 2 enhances CD8⁺ T cell cytotoxicity and directly impairs tumour growth via MAPK axis in HCC. *Front. Immunol.* 16:1668066.
- 75. Calvo, B., Torres-Vidal, P., Delrio-Lorenzo, A., Rodriguez, C., Aulestia, F.J., Rojo-Ruiz, J., Callejo, B., McVeigh, B.M., Keller, M., **Grimm, C.**, Oorschot, V., Moiseenkova-Bell, V., Yule, D., Garcia-Sancho, J., Patel, S., Alonso, M.T. (2025) Direct measurements of luminal Ca²⁺ with endo-lysosomal GFP-aequorin reveal functional IP3 receptors. *J. Cell. Biol.* 224:e202410094.
- 74. Li, Y., Krogsaeter, E.K., Gu, Z.-Q., Tang, R., Yang, Z., Keller, M., Leser, C., Fenske, S., Lin, N.-Y., Lin, J.-Y., Chang, S.-Y., Wahl-Schott, C., Bracher, F., Tsai, Y.-H., **Grimm, C.**, Biel, M., Chen, C.-C. (2025) TRPML2-mediated recycling endosome dynamics enhances host defense against pathogen invasion. *Biomedicine & Pharmacotherapy* 189:118350.
- 73. Schmiege, P.*, Jašlan, D.*, Fine, M., Sadanandan, N.P., Hatto, A., **Grimm, C.**#, Li, X.# (2025) TRPML2 in distinct states reveals the activation and modulation principles of the TRPML family. *Nature Commun.* 16(1):5325, 2025.
- 72. Chen, R.*, Liu, B.##, Jašlan, D.*, Kucej, L., Kudrina, V., Warnke, B., Klingl, Y., Petrauskas, A., Prat Castro, S., Maeda, K., **Grimm, C.**#, Jäättelä, M.# (2025) TMEM165 replenishes lysosomal calcium stores and mediates calcium-induced lysosomal H⁺ leak. *Nature Commun.*, 16(1):5209, 2025.
- 71. Gregori, M., Allen, R., West, N., Chau, K.-Y., Cai, X., Bolsover, S.R., Keller, M., Bracher, F., **Grimm, C.**, Gaiti Hasan, G., Gegg, M.E., Elliott, C.J., Schapira, A.H.V., Sweeney, S.T., Patel, S. (2025) A lysosomal two-pore channel disrupts neuronal Ca²⁺ entry and dopaminergic function in vivo in models of Parkinson disease. *J. Cell Biol.*, 224(6):e202412055.
- 70. Abrahamian, C.*, Tang, R.*, Deutsch, R.*, Ouologuem, E.-M., Weiden, E.-M., Kudrina, V., Blenninger, J., Rilling, J., Feldmann, C., Kuss, S., Stepanov, Y., Scotto Rosato, A., Calvo, G., Soengas, M., Mayr, D., Fröhlich, T., Gudermann, T., Biel, M., Wahl-Schott, C., Chen, C.-C., Bartel, K., **Grimm, C.**# (2024) Rab7a is an enhancer of TPC2 activity regulating melanoma progression through modulation of the GSK3β/β-Catenin/MITF axis. *Nature Commun.* 15(1):10008.
- 69. Egawa, M., Schmücker, E., **Grimm, C.**, Gudermann, T., Chubanov, V. (2024) Expression Profiling Identified TRPM7 and HER2 as Potential Targets for the Combined Treatment of Cancer Cells. *Cells* 13(21):1801.
- 68. Wüinkhaus, D., Tang, R., Nyame, K., Laqtom, N.N., Schweizer, M., Scotto-Rosato, A., Krogsaeter, E., Wollnik, C., Abu-Remailed, M., **Grimm, C.**, Hermey, G., Kuhn, R., Gruber-Schoffnegger, D., Markmann, S. (2024) TRPML1 activation ameliorates lysosomal phenotypes in CLN3 deficient retinal pigment epithelial cells. *Sci. Rep.* 14(1):17469.

- 67. Chi, G., Jašlan, D., Kudrina, K., Böck, J., Li, H., Rautenberg, S., Krogsaeter, E., Bohstedt, T., Wang, D., McKinley, G., Fernandez-Cid, A., Mukhopadhyay, S.M.M., Burgess-Brown, N.A., Keller, M., Bracher, F., **Grimm, C.**, Dürr, K.L. (2023) Structural basis for inhibition of the lysosomal Two-Pore channel TPC2 by a small molecule antagonist. *Structure* 23:S0969-2126(24)00182-5.
- 66. Tsvilovskyy, V., Ottenheijm, R., Kriebbs, U., Schütz, A., Diakopoulos, N., Jha, A., Bildl, W., Wirth, A., Böck, J., Jašlan, D., Ferro, I., Taberner, F., Kalinina, O., Staffan, H., Wissenbach, U., Weissgerber, P., Vogt, D., Eberhagen, C., Mannebach, S., Berlin, M., Kuryshv, V., Schuhmacher, D., Camacho-Londono, J., Mathar, I., Dietrich, C., Klugbauer, N., Biel, M., Wahl-Schott, C., Lipp, P., Flockerzi, V., Zischka, H., Algül, H., Lechner, S.G., Lesina, M., **Grimm, C.**, Fakler, B., Schulte, U., Muallem, S., Freichel, M. (2024) OCaR1 endows exocytic vesicles with autoregulatory competence by preventing uncontrolled Ca²⁺ release, exocytosis and pancreatic tissue damage. *JCI* 134(7):e169428.
- 65. Frey N, Ouologuem L, Blenninger J, Siow WX, Thorn-Seshold J, Stöckl J, Abrahamian C, Fröhlich T, Vollmar AM, **Grimm, C.**, Bartel K. (2024) Endolysosomal TRPML1 channel regulates cancer cell migration by altering intracellular trafficking of E-cadherin and β 1-integrin. *J Biol Chem.* 300(1):105581
- 64. Yuan, Y., Arige, V., Saito, R., Mu, Q., Bolsover, S.R., Keller, M., Bracher, F., **Grimm, C.**, Marchant, J.S., Yule, D.I., Patel, S. (2024) Two-pore channel-2 and inositol trisphosphate receptors coordinate Ca²⁺ signals between lysosomes and the endoplasmic reticulum. *Cell Rep.* 43(1):113628.
- 63. Goretzko, J., Pauels, J., Heitzig, N., Thomas, K., Kardell, M., Naß, J., Krogsaeter, E.K., Schloer, S., Linard Matos, A.L., Leser, C., Wegner, T., Glorius, F., Bracher, F., Gerke, V., Rossaint, J., **Grimm, C.**, Rescher, U. (2023) Leukocyte adhesion is governed by endolysosomal two pore channel 2 (TPC2). *Cell Rep.* 42(12):113501.
- 62. Clement, D., Szabo, E.K., Krokeide, S.Z., Wiiger, M.T., Vincenti, M., Palacios, D., Chang, Y.T., **Grimm, C.**, Patel, S., Stenmark, H., Brech, A., Majhi, R.K., Malmberg, K.J. (2023) The Lysosomal Calcium Channel TRPML1 Maintains Mitochondrial Fitness in NK Cells through Interorganelle Cross-Talk. *J Immunol.* 211(9):1348-1358.
- 61. Saito, R., Mu, Q., Yuan, Y., Eznarriaga, M., Gunaratne, G., Kumar, S., Keller, M., Bracher, F., **Grimm, C.**, Marchant, J.S., Rahman, T., Patel, S. (2023) Convergent activation of Ca²⁺-permeability in two-pore channel 2 through unique molecular routes. *Sci Signal* 16(799):eadg0661.
- 60. Xu, M., Zhong, X.Z., Huang, P., Jašlan, D., Wang, P., Sun, X., Weiden, E.-M., El Hiani, Y., **Grimm, C.**, Dong, X. (2023) TRPML3/BK complex promotes autophagy and bacterial clearance by providing a positive feedback regulation of mTOR. *PNAS* 20(34):e2215777120.
- 59. Martucci, L.L., Launay, J.-M., Kawakami, N., Sicard, C., Desvignes, N., Dakouane-Giudicelli, M., Spix, B., Têtu, M., Gilmaire, F.-O., Paulcan, S., Callebert, J., Vaillend, C., Bracher, F., **Grimm, C.**, Fossier, P., de la Porte, S., Sakamoto, S., Morris, J., Galione, A., Granon, S., Cancela, J.-M. (2023) Endo-lysosomal two-pore channels regulate social behaviour by controlling oxytocin and vasopressin secretion. *PNAS* 120(7):e2213682120.
- 58. Fernandez, B., Olmedo, P., Gil, F., Fdez, E., Naaldijk, Y., Rivero-Rios, P., Bracher, F., **Grimm, C.**, Churchill, G.C., Hilfiker, S. (2022) Iron-induced cytotoxicity mediated by endolysosomal TRPML1 channels is reverted by TFEB. *Cell Death & Disease* 13(12):1047.
- 57. Spix, B., Castiglioni, A.J., Remis, N.N., Flores, E.N., Wartenberg, P., Wyatt, A., Boehm, U., Gudermann, T., Biel, M., García-Añoveros, J., **Grimm, C.** (2022) Whole-body analysis of TRPML3 expression using a GFP-reporter mouse model reveals widespread expression in secretory cells and endocrine glands. *PLoS ONE* 17(12):e0278848.
- 56. Laqtom, N.N., Dong, W., Medoh, U.N., Cangelosi, A.L., Dharamdasani, V., Chan, S.H., Kunchok, T., Lewis, C.A., Heinze, I., Tang, R., **Grimm, C.**, Do, A.N.D., Porter, F.D., Ori, A., Sabatini, D.M., Abu-Remaileh, M. (2022) CLN3 is required for the efflux of glycerophosphodiester from lysosomes. *Nature* 609(7929):1005-1011.
- 55. Scotto Rosato, A.* , Krogsaeter, E.K.* , Montefusco, S., Abrahamian, C., Jašlan, D., Soldati, C., Spix, B., Böck, J., Pizzo, M.T., Grieco, G., Wyatt, A., Wünkhaus, D., Passon, M., Stieglitz, M., Keller, M., Hermey, G., Markmann, S., Gruber-Schoffnegger, D., Cotman, S., Johannes, L., Crusius, D., Boehm, U., Wahl-Schott, C., Biel, M., Bracher, F., De Leonibus, E., Polishchuk, E., Medina, D.L.#, Paquet, D.#, **Grimm, C.**# (2022) TPC2 rescues lysosomal storage in mucopolidosis type IV, Niemann-Pick type C1 and Batten disease. *EMBO Mol. Med.* 5:e15377.
- 54. Geisslinger, F., Müller, M., Chao, Y.-K., **Grimm, C.**, Vollmar, A.M., Bartel, K. (2022) Targeting TPC2 sensitizes acute lymphoblastic leukemia cells to chemotherapeutics by impairing lysosomal function. *Cell Death & Disease* 13(8):668.
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Before 11/2018 (start W2 position):

- 4. **Grimm, C.#**, Barthmes, M., and Wahl-Schott, C. (2014) *TRPML3*, in: Nilius, B. and Flockerzi, V., *Mammalian Transient Receptor Potential (TRP) cation channels*, *The Handbook of Experimental Pharmacology (HEP)*, Springer Publishing, 222:659-674
- 3. **Grimm, C.#** and Cuajungco, M.P. (2014) *Mucopolipidosis type IV and TRPML channels*, in: Koschak, A. and Weiss, N., *Pathologies of Calcium Channels*, Springer Publishing, pp. 365-379
- 2. Saldanha, S.A., **Grimm, C.**, Allais, C., Smith, E., Ouizem, S., Mercer, B.A., Roush, W.R., Heller, S., Hodder, P. (2013) Identification of Selective Agonists of the Transient Receptor Potential Channels 3 (TRPML3). *Probe Reports from the NIH Molecular Libraries Program [Internet]*. Bethesda (MD): National Center for Biotechnology Information (US); 2010-2012 Mar 21 [updated 2013 Sep 03]
- 1. Saldanha, S.A., **Grimm, C.**, Mercer, B.A., Choi, J.Y., Allais, C., Roush, W.R., Heller, S., and Hodder, P. (2011) *Campaign to Identify Agonists of Transient Receptor Potential Channels 3 and 2 (TRPML3 & TRPML2)*, *Probe Reports from the NIH Molecular Libraries Program*, Bethesda (MD): National Center for Biotechnology Information

corresponding or shared corresponding author

Preferred Disease Area/Platform/DSWG and Rationale for Membership in the DZL (not more than half a page)

We have studied as part of a DFG funded project within the GRK2338 (Lung Toxicology Research Training Group) on endolysosomal ion channels the role of those channels in lung fibrosis and emphysema. It appears that endolysosomal Ca²⁺ release and regulation of exocytosis and endocytosis of e.g. matrix metalloproteinases playing roles in lung fibrosis and emphysema are controlled by endolysosomal ion channels, specifically TRPML channels. In two recent papers

- Weiden EM*, Serianz Z*, Klingl Y*, Jörs S*, Jašlan D, Keller M, Prat Castro S, Mkhitarian M, Jeridi A, Briukhovetska D, Spix B, Scotto Rosato A, Agami A, Schiller HB, Rajan S, Schredelseker J, Fois G, Frick M, Kobold S, Klein M, Geisler F, Garcia-Fortanet J, Murphy LO, Bracher F, Wahl-Schott C, Gudermann T, Dietrich A, Biel M#, Yildirim AÖ#, **Grimm C#**: TRPML1 suppresses pulmonary fibrosis by limiting collagen and elastin deposition. *EMBO J* 45(7):2182-2209, 2026.

- Spix B, Butz ES, Chen C-C, Scotto Rosato A, Tang, R, Jeridi A, Kudrina V, Plesch E, Wartenberg P, Arlt E, Briukhovetska D, Ansari M, Günes Günsel G, Conlon TM, Wyatt A, Wetzel S, Teupser D, Holdt LM, Ectors F, Boekhoff I, Boehm U, García Añoveros J, Saftig P, Giera M, Kobold S, Schiller HB, Zierler S, Gudermann T, Wahl-Schott C, Bracher F, Yildirim AÖ, Biel, M, **Grimm C#**: Lung emphysema and impaired macrophage elastase clearance in mucolin 3 deficient mice. *Nature Commun* 13(1):318, 2022.

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In cooperation with Dr. Yildirim at the Helmholtz Center for Pneumology in Munich we could establish and elucidate roles of these channels in lung fibrosis (TRPML1) and lung emphysema (TRPML3) development and progression and based on our work postulate that both channels may be interesting drug targets for the treatment of fibrosis and emphysema in the lung:

<https://www.lmu-klinikum.de/newscenter/news/pulmonary-fibrosis-ion-channel-regulates-tissue-remodeling/a3735c1e93eb357b>

<https://dzt.de/news/copd-ionenkanal-reguliert-krankheitsfoerderndes-molekuel/>

- Disease Area Asthma & Allergy (AA)
 - Disease Area Chronic Obstructive Pulmonary Disease (COPD)
 - Disease Area Cystic Fibrosis & Bronchiectasis (CFBE)
 - Disease Area Pneumonia & Acute Lung Injury (PALI)
 - Disease Area Diffuse Parenchymal Lung Disease (DPLD)
 - Disease Area Pulmonary Hypertension (PH)
 - Disease Area Regeneration & Organ Replacement (ROR)
 - Disease Area Lung Cancer (LC)
 - Lung Fibrosis
-
- Biobanking & Data Management Platform (PLB)
 - Imaging Platform (PLI)
-
- DSWG Artificial Intelligence & Digital Tools (AID)
 - DSWG Lung Environment Interaction (LEI)
 - DSWG Microbiome – Metagenome (MM)
 - DSWG Single-Cell Analysis (SCA)