Vortragsprogramm:

Organoide und ihre Anwendungsmöglichkeiten in der Medizin

Donnerstag, 20.10.2022, 14:00 – 18:00 Uhr

I. Hirn (14:05 –14:50)
Lisa Huber
Sun XY, Ju XC, Li Y, Zeng PM, Wu J, Zhou YY, u. a. Generation of vascularized brain organoids to study neurovascular interactions. eLife. 4. Mai 2022;11:e76707

Mia Katharina Neumüller
Wang SN, Wang Z, Xu TY, Cheng MH, Li WL, Miao CY. Cerebral Organoids Repair Ischemic Stroke Brain Injury. Transl Stroke Res. 2020 Oct;11(5):983–1000.

Amir Sadra Ohadi Haeri
Park JC, Jang SY, Lee D, Lee J, Kang U, Chang H, et al. A logical network-based drug-screening platform for Alzheimer's disease representing pathological features of human brain organoids. Nat Commun. 2021 Jan 12;12(1):280.

10 Minuten Pause

II. Ohr und Auge (15:00 – 15:45)
Xaver Spaun
Achberger K, Probst C, Haderspeck J, Bolz S, Rogal J, Chuchuy J, u. a. Merging organoid and organ-on-a-chip technology to generate complex multi-layer tissue models in a human retina-on-a-chip platform. eLife. 27. August 2019;8:e46188

Joel Probst
Moeinvaziri F, Shojaei A, Haghparast N, Yakhkeshi S, Nemati S, Hassani SN, Baharvand H. Towards maturation of human otic hair cell-like cells in pluripotent stem cell-derived organoid transplants. Cell Tissue Res. 2021 Nov;386(2):321-333. doi: 10.1007/s00441-021-03510-y. Epub 2021 Jul 28.

10 Minuten Pause

III. Lunge und Leber (15:55 – 16:40)
Nicole Klaus
Pei R, Feng J, Zhang Y, Sun H, Li L, Yang X, He J, Xiao S, Xiong J, Lin Y, Wen K, Zhou H, Chen J, Rong Z, Chen X. Host metabolism dysregulation and cell tropism identification in human airway and alveolar organoids upon SARS-CoV-2 infection. Protein Cell. 2021 Sep;12(9):717-733. doi: 10.1007/s13238-020-00811-w. Epub 2020 Dec 12.

Elsa Gegendorfer
Seo HR, Han HJ, Lee Y, Noh YW, Cho SJ, Kim JH. Human Pluripotent Stem Cell-Derived Alveolar Organoid with Macrophages. Int J Mol Sci. 16. August 2022;23(16):9211.

Tobias Macher
Hu H, Gehart H, Artegiani B, LÖpez-Iglesias C, Dekkers F, Basak O, u. a. Long-Term Expansion of Functional Mouse and Human Hepatocytes as 3D Organoids. Cell. 29. November 2018;175(6):1591-1606.e19.

Freitag, 21.10.2022, 14:00 – 18:00 Uhr

IV. Pankreas und Niere (14:05 – 14:50)

Selina Kern
Below CR, Kelly J, Brown A, Humphries JD, Hutton C, Xu J, Lee BY, Cintas C, Zhang X, Hernandez-Gordillo V, Stockdale L, Goldsworthy MA, Geraghty J, Foster L, et al,, Jørgensen C. A microenvironment-inspired synthetic three-dimensional model for pancreatic ductal adenocarcinoma organoids. Nat Mater. 2022 Jan;21(1):110-119. doi: 10.1038/s41563-021-01085-1. Epub 2021 Sep 13.

Sebastian Köstenbauer
Huang L, Holtzinger A, Jagan I, BeGora M, Lohse I, Ngai N, u. a. Ductal pancreatic cancer modeling and drug screening using human pluripotent stem cell- and patient-derived tumor organoids. Nat Med. November 2015;21(11):1364–71.

Anna-Sophia Habermüller
Vanslambrouck JM, Wilson SB, Tan KS, Groenewegen E, Rudraraju R, Neil J, Lawlor KT, Mah S, Scurr M, Howden SE, Subbarao K, Little MH. Enhanced metanephric specification to functional proximal tubule enables toxicity screening and infectious disease modelling in kidney organoids. Nat Commun. 8. Oktober 2022;13(1):5943,

10 Minuten Pause

V. Darm und Skelettmuskulatur (15:00 – 15:45)

David Liu
Serra D, Mayr U, Boni A, Lukonin I, Rempfler M, Challet Meylan L, u. a. Self-organization and symmetry breaking in intestinal organoid development. Nature. Mai 2019;569(7754):66–72.

Daniel Lee
Sugimoto S, Kobayashi E, Fujii M, Ohta Y, Arai K, Matano M, u. a. An organoid-based organ-repurposing approach to treat short bowel syndrome. Nature. April 2021;592(7852):99–104.

Felix Arndt
S hin MK, Bang JS, Lee JE, Tran HD, Park G, Lee DR, Jo J. Generation of Skeletal Muscle Organoids from Human Pluripotent Stem Cells to Model Myogenesis and Muscle Regeneration. Int J Mol Sci. 2022 May 4;23(9):5108. doi:10.3390/ijms23095108. PMID: 35563499; PMCID: PMC9103168

10 Minuten Pause

VI. Diskussion der medizinischen Relevanz der vorgestellten Publikationen (15:55 – 16:15)

VII. Erstellen einer gemeinsamen Presseaussendung (16:15– ca. 16:45)