

## Huch, Meritxell, PhD (A06)

### Personal Data

Title	Dr.
First name	Meritxell
Name	Huch
Current position	Director of Max Planck Institute of Molecular Cell Biology and Genetics, Dresden, Germany; permanent position
Current institution(s)/site(s), country	Max Planck Institute of Molecular Cell Biology and Genetics, Dresden, Pfotenhauerstr. 108, 01307 Dresden, Germany
Identifiers/ORCID	ORCID-ID: 0000-0002-1545-5265

### Qualifications and Career

Stages	Periods and Details
Degree programme: Pharmaceutical Science, BSc	1996 – 2001, University of Barcelona, Barcelona, Spain
Degree programme: Biomedicine, MSc	2002 – 2003, Master of Advanced Studies, University of Barcelona, Centre for Genomic Regulation (CRG), Barcelona, Spain
Doctorate: PhD thesis	15.07.2007: Supervisor: Cristina Fillat, “ <i>Study of the antitumoral efficacy of adenoviral vectors targeting FGFR and the selectivity of AdCK7pLuc and AduPARpLuc in pancreatic cancer models</i> ”, Center for Genomic Regulation (CRG), Barcelona, Spain
Stages of academic/professional career	
2019 – 2022	Lise Meitner Max Planck Research Group Leader, Max Planck Gesellschaft, Dresden, Germany
2014 – 2020	Sir Henry Dale Wellcome Trust Group Leader, The Gurdon Institute, University of Cambridge-UK. Affiliated Group Leader at The Wellcome Trust/MRC Cambridge Stem Cell Institute. Member of the Department of Physiology, Developmental Biology and Neurosciences, University of Cambridge, UK
2008 – 2014	Postdoctoral Fellow (Marie Curie Fellow-IEF). Supervisor: Hans Clevers, Hubrecht Institute for Developmental Biology and Stem Cell Research. Utrecht, The Netherlands

### Engagement in the Research System

#### Selected Memberships:

- Member of the International Society for Regenerative Biology (ISRB) (since 2022)
- Member of the European Association for Cancer Research (EACR) (since 2021)

- Ambassador of the British Society for Cell Biology (BSCB) (by invitation only) (2018 – 2020)
- Member of the International Society for Stem Cell Research (ISSCR) (since 2017)

## Scientific Results

**Category A**, \* contributed equally, § co-corresponding author, # open access

1. Belenguer G, Mastrogiovanni G, Pacini C, Hall Z, Dowbaj AM, Arnes-Benito R, Slijkic A, Prior N, Kakava S, Bradshaw CR, Davies S, Vacca M, Saeb-Parsy K, Koo BK, **Huch M**. RNF43/ZNRF3 loss predisposes to hepatocellular-carcinoma by impairing liver regeneration and altering the liver lipid metabolic ground-state. **Nat Commun** 2022; 13(1):334. doi: 10.1038/s41467-021-27923-z. #
2. Cordero-Espinoza L, Dowbaj AM, Kohler TN, Strauss B, Sarlidou O, Belenguer G, Pacini C, Martins NP, Dobie R, Wilson-Kanamori JR, Butler R, Prior N, Serup P, Jug F, Henderson NC, Hollfelder F, **Huch M**. Dynamic cell contacts between periportal mesenchyme and ductal epithelium act as a rheostat for liver cell proliferation. **Cell Stem Cell** 2021; 28(11):1907-1921.e8. doi: 10.1016/j.stem.2021.07.002. #
3. Georgakopoulos N, Prior N, Angres B, Mastrogiovanni G, Cagan A, Harrison D, Hindley CJ, Arnes-Benito R, Liao SS, Curd A, Ivory N, Simons BD, Martincorena I, Wurst H, Saeb-Parsy K, **Huch M**. Long-term expansion, genomic stability and in vivo safety of adult human pancreas organoids. **BMC Dev Biol** 2020; 20(1):4. doi: 10.1186/s12861-020-0209-5. #
4. Aloia L, McKie MA, Vernaz G, Cordero-Espinoza L, Aleksieva N, van den Ameele J, Antonica F, Font-Cunill B, Raven A, Aiese Cigliano R, Belenguer G, Mort RL, Brand AH, Zernicka-Goetz M, Forbes SJ, Miska EA, **Huch M**. Epigenetic remodelling licences adult cholangiocytes for organoid formation and liver regeneration. **Nat Cell Biol** 2019; 21(11):1321-1333. doi: 10.1038/s41556-019-0402-6. #
5. Prior N, Hindley CJ, Rost F, Meléndez E, Lau WWY, Göttgens B, Rulands S, Simons BD, **Huch M**. Lgr5+ stem and progenitor cells reside at the apex of a heterogeneous embryonic hepatoblast pool. **Development** 2019; 146(12). pii: dev174557. doi: 10.1242/dev.174557. #
6. Broutier L, Mastrogiovanni G, Verstegen MM, Francies HE, Gavarró LM, Bradshaw CR, Allen GE, Arnes-Benito R, Sidorova O, Gaspersz MP, Georgakopoulos N, Koo BK, Dietmann S, Davies SE, Praseedom RK, Lieshout R, IJzermans JNM, Wigmore SJ, Saeb-Parsy K, Garnett MJ, van der Laan LJ, **Huch M**. Human primary liver cancer-derived organoid cultures for disease modeling and drug screening. **Nat Med** 2017; 23(12):1424-1435. doi: 10.1038/nm.4438. #
7. Broutier L, Andersson-Rolf A, Hindley CJ, Boj SF, Clevers H, Koo BK, **Huch M**. Culture and establishment of self-renewing human and mouse adult liver and pancreas 3D organoids and their genetic manipulation. **Nat Protoc** 2016; 11(9):1724-43. doi: 10.1038/nprot.2016.097.
8. **Huch M**, Gehart H, van Boxtel R, Hamer K, Blokzijl F, Verstegen MM, Ellis E, van Wenum M, Fuchs SA, de Ligt J, van de Wetering M, Sasaki N, Boers SJ, Kemperman H, de Jonge J, IJzermans JN, Nieuwenhuis EE, Hoekstra R, Strom S, Vries RR, van der Laan LJ, Cuppen E, Clevers H. Long-Term Culture of Genome-Stable Bipotent Stem Cells from Adult Human Liver. **Cell** 2015; 160(1-2):299-312. doi: 10.1016/j.cell.2014.11.050. #
9. **Huch M**, Dorrell C, Boj SF, van Es JH, Li VSW, van de Wetering M, Sato T, Hamer K, Sasaki N, Finegold MJ, Haft A, Vries R, Grompe M, Clevers H. In vitro expansion of single

Lgr5+ liver stem cells induced by Wnt-driven regeneration. **Nature** 2013; 494:247-50. doi: 10.1038/nature11826. #

10. Barker N\*, **Huch M\***, Kujala P, van de Wetering M, Snippert HJ, van Es JH, Sato T, Stange DE, Begthel H, van den Born M, Danenberg E, van den Brink S, Korving J, Abo A, Peters PJ, Wright N, Poulson R, Clevers H. Lgr5(+ve) stem cells drive self-renewal in the stomach and build long-lived gastric units in vitro. **Cell Stem Cell** 2010; 6(1):25-36. doi: 10.1016/j.stem.2009.11.013. #

## Academic Distinctions

### Selection of most important invited lectures/Keynote Lectures

- Presidential Symposium Invited talk, ISSCR, International Society for Stem Cell Research (06.2021)
- Keynote Hans Popper Basic Science State-of-the Art lecture, American Association for the study of liver disease (AASLD) (11.2020)
- Presidential invite keynote speaker, 8<sup>th</sup> Annual German Stem Cell Network conference (09.2020)

### Prizes, awards

- Hilde Mangold Award. German Stem Cell Network (GSCN) (2022)
- The BINDER Innovation Prize (2019). German Society for Cell Biology (DGZ)
- Researcher of the Year', Cambridge Independent Science and Technology Awards (2018)
- EMBO Young Investigator Award (2018)
- Dame Sheila Sherlock Prize (2018). The British Association for the Study of the Liver (BASL)
- The Women in Cell Biology Early Career Medal (2018). The British Society for Cell Biology
- The Hamdan Award for Medical Research Excellence Hamdan Awards (2016)
- Wellcome-Beit Prize Wellcome Trust (2014)
- NC3Rs International Prize. National Centre for the Replacement, Refinement & Reduction of Animals in Research, UK, 2014

### Collaborators

No.	Collaboration partners	Location/Institution
1	Stephan Rulands	Dresden, Germany, MPI-PKS (Physics of Complex Systems)
2	Daniel Stange	Dresden, Germany, Technische Universität
3	Jochen Hampe	Dresden, Germany, Technische Universität
4	Andreas Prokesch	Graz, Austria, Medical University of Graz
5	Ben Simons	Cambridge, UK, University of Cambridge
6	Anna Philpott	Cambridge, UK, University of Cambridge
7	Michele Vacca	Cambridge, UK, University of Cambridge
8	Kourosh Saeb-Parsy	Cambridge, UK, University of Cambridge
9	Martin Hemberg	Cambridge, UK, Sanger Institute
10	Inigo Martincorena	Cambridge, UK, Sanger Institute
11	Zoe Hall	London, UK, Imperial College
12	Ernst Stelzer	Frankfurt, Germany, Goethe University

13	Francesco Pampaloni	Frankfurt, Germany, Goethe University
14	Florian Hollfelder	Cambridge, UK, University of Cambridge
15	Neil Henderson	Edinburgh, UK, University of Edinburgh, Queen's Medical Research Institute
16	Tokameh Mahmoudi	Rotterdam, Netherlands, Erasmus University Medical Center
17	Stuart Forbes	Edinburgh, UK, MRC-University of Edinburgh
18	Eric Miska	Cambridge, UK, University of Cambridge, Gurdon Institute
19	Andrea Brand	Cambridge, UK, University of Cambridge, Gurdon Institute
20	Matias Avila	Pamplona, Spain, Cima Universidad de Navarra
21	Beatriz Martinez-Delgado	Madrid, Spain, Instituto de Salud Carlos III