

## PERSONAL DATA

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Name Jürgen A. Knoblich

Date and Place of Birth: October 24, 1963 in Memmingen, Germany

Nationality: German

Present Address: Institute of Molecular Biotechnology  
of the Austrian Academy of Sciences (IMBA)  
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ResearcherID: <https://publons.com/researcher/2433266/juergen-a-knoblich/>

## PROFESSIONAL EXPERIENCE

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07/2018-current **Scientific Director**  
Institute of Molecular Biotechnology  
of the Austrian Academy of Sciences (IMBA), Vienna

06/2016-current **Adjunct Professor**  
Medical University of Vienna

01/2005–06/2018 **Deputy Director**  
Institute of Molecular Biotechnology  
of the Austrian Academy of Sciences (IMBA), Vienna

01/2004-06/2018 **Senior Scientist**  
Institute of Molecular Biotechnology  
of the Austrian Academy of Sciences (IMBA), Vienna

09/1997-01/2004 **Group Leader**  
Institute of Molecular Pathology (I.M.P.), Vienna

07/1994-09/1997 **Post-Doctoral Position**  
University of California, San Francisco  
Laboratory of Drs. Lily and Yuh Nung Jan

## EDUCATION

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10/90-06/94 **Ph.D. Thesis:**  
Friedrich Miescher Laboratorium  
der Max Planck Gesellschaft, Tübingen  
Laboratory of Dr. Christian Lehner  
*Genetic Analysis of Cyclin Proteins During Drosophila  
Embryonic Development*

7/89-9/90 **Diploma Thesis:**  
Max Planck Institute for Developmental Biology, Tübingen  
Dept. of Prof. Dr. Alfred Gierer  
*Identification of a Novel Member of the Immunoglobulin Protein  
Superfamily Expressed in the CNS of Drosophila melanogaster*

- 10/83-7/89      **Program in Biochemistry**  
University of Tübingen
- 10/86-10/87      **University College London**  
Laboratory Courses in Molecular Biology and Biochemistry

## RESEARCH AWARDS

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- 2016    **Advanced Research Grant**  
European Research Council (ERC)
- 2015    **Ernst Klenk Lecture**  
University of Cologne
- 2015    **Sir Hans Krebs Medal**  
Federation of European Biochemical Societies (FEBS)
- 2012    **Erwin Schroedinger Prize**  
Austrian Academy of Sciences (ÖAW)
- 2010    **Advanced Research Grant**  
European Research Council (ERC)
- 2010    **Karl Friedrich Bonhoeffer Lecture**  
Max Planck Institute for Bio-physical Chemistry, Goettingen
- 2009    **Wittgenstein Prize**  
Austrian Science Fund (FWF)
- 2003    **Early Career Award**  
European Life Scientist Organization (ELSO)
- 2001    **Young Investigator Award**  
European Molecular Biology Organisation (EMBO)
- 2001    **Anniversary Award**  
Federation of the European Biochemical Societies (FEBS)

## FELLOWSHIPS

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- 1994    **Postdoctoral Fellowship (07/94-07/96)**  
European Molecular Biology Organisation (EMBO)
- 1996    **Postdoctoral Fellowship (07/96 – 09/97)**  
Howard Hughes Medical Institute

## MEMBERSHIPS

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2020	<b>Board of Directors, ISSCR</b> (International Society for Stem Cell Research)
2014	<b>EMBO council</b> , elected member
2013	<b>Austrian Academy of Sciences</b> , elected member
2012	<b>Academia Europaea</b> , elected member
2002	<b>EMBO (European Molecular Biology Organisation)</b> , elected member
2002	<b>ISSCR (International Society for Stem Cell Research)</b> , Member

## EDITORIAL AND REVIEW BOARDS

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2019 - current	ISSCR (International Society for Stem Cell Research) Steering Committee, Guidelines task force, member
2018 - current	Neurodevelopments, editorial board member
2016 - current	Journal of Cell Biology, editorial board member
2014 - current	European Research Council (ERC), Advanced Grant Panel LS3, Panel Chair
2013 - current	Howard Hughes Medical Institute (HHMI), Neuroscience review panel member
2010 - 2013	EMBO fellowship committee, Panel Chair
2009 - current	Current Opinion in Cell Biology, editorial board member
2008 - 2013	European Research Council (ERC), Advanced Grant Panel LS3, Panel member
2008 - 2011	Cancer Stem Cell Network, Deutsche Krebshilfe e.V. (German Cancer Aid), Scientific Advisory Board member
2005 - 2010	EMBO fellowship committee, elected member
2004 - current	European Journal of Cell Biology, editorial board member
2002 - current	Current Biology, editorial board member

## TEN MOST RELEVANT PUBLICATIONS

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Betschinger, J., Mechtler, K. and Knoblich, J.A. (2003). The Par complex directs asymmetric cell division by phosphorylating the cytoskeletal protein Lgl. **Nature**, 422, 326-330.

Emery, G., Hutterer, A., Berdnik, D., Mayer, B., Wirtz-Peitz, F., Gonzalez Gaitan, M., and Knoblich, J. A. (2005). Asymmetric rab11 endosomes regulate Delta recycling and specify cell fate in the *Drosophila* nervous system. **Cell** 122, 763-773.

Betschinger, J., Mechtler, K., and Knoblich, J. A. (2006). Asymmetric segregation of the tumor suppressor brat regulates self-renewal in *Drosophila* neural stem cells. **Cell** 124, 1241-1253.

Neumüller, R.A., Betschinger, J., Fischer, A., Bushati, N., Poernbacher, I., Mechtler, K., Stephen M. Cohen, S.M. and Knoblich, J.A. (2008). Mei-P26 regulates micro RNAs and cell growth in the *Drosophila* ovarian stem cell lineage, **Nature**, 454, 241-245.

Wirtz-Peitz, F., Nishimura, T., and Knoblich, J.A. (2008). Linking cell cycle to asymmetric division: Aurora-A phosphorylates the Par complex to regulate Numb localization, **Cell**, 135, 161-173.

Mummery-Widmer, J.L., Yamazaki, M., Stoeger, T., Novatchkova, M., Chen, D., Dietzl, G., Dickson, B.J., and Knoblich, J.A. (2009) Genome-wide analysis of *Drosophila* external sensory organ development by transgenic RNAi, **Nature**, 458, 987-992.

Lancaster, M. A., Renner, M., Martin, C. A., Wenzel, D., Bicknell, L. S., Hurles, M. E., Homfray, T., Penninger, J. M., Jackson, A. P., and Knoblich, J. A. (2013). Cerebral organoids model human brain development and microcephaly. **Nature** 501, 373-379.

Eroglu, E., Burkard, T. R., Jiang, Y., Saini, N., Homem, C. C., Reichert, H., and Knoblich, J. A. (2014). SWI/SNF Complex Prevents Lineage Reversion and Induces Temporal Patterning in Neural Stem Cells. **Cell** 156, 1259-1273.

Homem, C. C., Steinmann, V., Burkard, T. R., Jais, A., Esterbauer, H., and Knoblich, J. A. (2014). Ecdysone and mediator change energy metabolism to terminate proliferation in *Drosophila* neural stem cells. **Cell** 158, 874-888.

Bonnay F, Veloso A, Steinmann V, Köcher T, Abdusselamoglu MD, Bajaj S, Rivelles E, Landskron L, Esterbauer H, Zinzen RP and Knoblich JA (2020). Oxidative metabolism drives immortalization of neural stem cells during tumorigenesis. **Cell** (in press)

## LIST OF ACTIVE GRANTS

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### Special Research Program

Duration: 03/2020 – 02/2024  
Role: Coordinator  
Funding Organization: FWF (Austrian Science Fund)  
Grant Number / Acronym: SFB Project F078  
Amount: **780.000 (total: 4.175 Mio €)**  
Research Topic: Stem Cell Modulation in Neural Development and Regeneration

### Doc.Funds Program

Duration: 10/2019 – 09/2023  
Role: co-PI  
Funding Organization: FWF (Austrian Science Fund)  
Grant Number / Acronym: DOC 72-B27  
Amount: **163.000 €**  
Research Topic: Stem Cells, Tissues, Organoids (SCORPION)

### HCA Organoid

Duration: 01/2020 – 03/2022  
Role: co-PI  
Funding Organization: European Research Council (ERC)  
Grant Number / Acronym: 874769  
Amount: **610.000€**  
Research Topic: Human tissue organoid platform within the Human Cell Atlas initiative

### ERC Advanced Grant

Duration: 01/2017 – 12/2021  
Funding Organization: European Research Council (ERC)  
Grant number/acronym: MiniBrain  
Amount: **2.8 Mio €**  
Research Topic: Cerebral Organoids: Using stem cell derived 3D cultures to understand human brain development and neurological disorders

## LIST OF RECENT GRANTS (SINCE 2009)

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### Wittgenstein Prize

Duration: 01/2010-12/2016  
 Funding Organization: Austrian Science Fund (FWF)  
 Grant number/acronym: Z153-B09  
 Amount: **1.5 Mio €**

### ERC Proof of Concept Grant

Duration: 01/2017 – 06/2018  
 Funding Organization: European Research Council (ERC) Grant  
 number/acronym: MiniBrains  
 Amount: **150.000 €**  
 Research Topic: Cerebral organoids: human mini brains in a dish open up new possibilities for drug development in neurodegenerative and developmental diseases

### New Frontiers Research Grant, Austrian Academy of Sciences

Duration: Planned: 06/2016 -06/2017  
 Funding Organization: Austrian Academy of Sciences (OeAW) Grant  
 number/acronym: NFRI 2015/13  
 Amount: **350.000 €**  
 Research Topic: Infrastructure for human pluripotent stem cell research

### ERC Advanced Grant

Duration: 04/2010 – 03/2015  
 Funding Organization: European Research Council (ERC)  
 Grant number/acronym: NeuroSyStem  
 Amount: **2.5 Mio €**  
 Research Topic: A Systems Level Approach to Proliferation and Differentiation Control in Neural Stem Cell Lineages

### Joint Project FWF / Swiss National Fund

Duration: 04/2013 – 03/2015  
 Funding Organizations: Austrian Science Fund (FWF) and Swiss National Fund (SNF)  
 Grant number/acronym: I1281-B19  
 Amount: **163.1 k€**  
 Research Topic: From stem cell to brain tumor: a genetic analysis

**International Cooperation Grant FWF / Swiss National Fund**

Duration: 05/2010 – 04/2013  
Funding Organizations: Austrian Science Fund (FWF) and Swiss National Fund (SNF)  
Grant number/acronym: I552-B19  
Amount: **270 k€**  
Research Topic: From stem cell to brain tumor: a genetic analysis

**Collaborative Research Grant FWF**

Duration: 08/2008 – 06/2011  
Funding Organization: Austrian Science Fund (FWF)  
Grant number/acronym: P20547-B09  
Amount: **384.5 k€**  
Research Topic: *Drosophila* Tumor Suppressors and Mass Spectrometry

**EU Large Scale Integrating Project**

Duration: 03/2008 – 02/2012  
Funding Organization: European Research Council (ERC)  
Grant number/acronym: EuroSyStem  
Amount: **400 k€**  
Research Topic: European Federation for Systematic Stem Cell Biology

## PUBLICATIONS (COMPLETE LIST)

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Bonnay F, Veloso A, Steinmann V, Köcher T, Abdusselamoglu MD, Bajaj S, Rivelles E, Landskron L, Esterbauer H, Zinzen RP and [Knoblich JA](#) (2020). Oxidative metabolism drives immortalization of neural stem cells during tumorigenesis. **Cell** (in press)

Sidhaye J, [Knoblich JA](#) (2020). Brain organoids: an ensemble of bioassays to investigate human neurodevelopment and disease. **Cell Death Differ.** 2020 Jun 1. doi: 10.1038/s41418-020-0566-4. Online ahead of print

Bonnay F, [Knoblich JA](#) (2020). Prospero Phase-Separating the Way to Neuronal Differentiation. **Dev Cell** 52(3):251-252. doi: 10.1016/j.devcel.2020.01.022.

Abdusselamoglu MD, Landskron L, Bowman SK, Eroglu E, Burkard T, Kingston RE, [Knoblich JA](#). (2019) Dynamics of activating and repressive histone modifications in *Drosophila* neural stem cell lineages and brain tumors. **Development** 146(23).

Abdusselamoglu MD, Eroglu E, Burkard TR, [Knoblich JA](#). (2019) The transcription factor odd-paired regulates temporal identity in transit-amplifying neural progenitors via an incoherent feed-forward loop. **Elife** 22;8.

Lehmann R, Lee CM, Shugart EC, Benedetti M, Charo RA, Gartner Z, Hogan B, [Knoblich JA](#), Nelson CM, Wilson KM. (2019) Human organoids: a new dimension in cell biology. **Mol Biol Cell** 30(10):1129-1137.

Masselink W, Reumann D, Murawala P, Pasierbek P, Taniguchi Y, Bonnay F, Meixner K, [Knoblich JA](#), Tanaka EM (2019). Broad applicability of a streamlined ethyl cinnamate-based clearing procedure. **Development** 146(3).

Wimmer RA, Leopoldi A, Aichinger M, Wick N, Hantusch B, Novatchkova M, Taubenschmid J, Hämmerle M, Esk C, Bagley JA, Lindenhofer D, Chen G, Boehm M, Agu CA, Yang F, Fu B, Zuber J, [Knoblich JA](#), Kerjaschki D, Penninger JM (2019). Human blood vessel organoids as a model of diabetic vasculopathy. **Nature** 565(7740):505-510.

Bian S., Repic M., Guo Z., Kavirayani A., Burkard T., Bagley J. A., Krauditsch C., and [Knoblich J. A.](#) (2018). Genetically engineered cerebral organoids model brain tumor formation. **Nat Methods** 15, 631-639.

Wissel S., Harzer H., Bonnay F., Burkard T. R., Neumüller R. A., and [Knoblich J. A.](#) (2018). Time-resolved transcriptomics in neural stem cells identifies a v-ATPase/Notch regulatory loop. **J Cell Biol.**

Corsini N. S., Peer A. M., Moeseneder P., Roiuk M., Burkard T. R., Theussl H. C., Moll I., and [Knoblich J. A.](#) (2018). Coordinated Control of mRNA and rRNA Processing Controls Embryonic Stem Cell Pluripotency and Differentiation. **Cell Stem Cell** 22, 543-558.

Landskron L., Steinmann V., Bonnay F., Burkard T. R., Steinmann J., Reichardt I., Harzer H., Laurenson A. S., Reichert H., and [Knoblich J. A.](#) (2018). The asymmetrically segregating lncRNA cherub is required for transforming stem cells into malignant cells. **Elife** 27;7.

Corsini N. S., and [Knoblich J. A.](#) (2018). Tracing Stem Cell Division in Adult Neurogenesis. **Cell Stem Cell** 22, 143-145.

Reichardt I., Bonnay F., Steinmann V., Loedige I., Burkard T. R., Meister G., and [Knoblich J. A.](#) (2018). The tumor suppressor Brat controls neuronal stem cell lineages by inhibiting Deadpan and Zelda. **EMBO Rep.** 19, 102-117.



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Abramczuk M. K., Burkard T. R., Rolland V., Steinmann V., Duchek P., Jiang Y., Wissel S., Reichert H., and Knoblich J. A. (2017). The splicing co-factor Barricade/Tat-SF1 is required for cell cycle and lineage progression in Drosophila neural stem cells. **Development** 144, 3932-3945.

Lancaster M. A., Corsini N. S., Wolfinger S., Gustafson E. H., Phillips A. W., Burkard T. R., Otani T., Livesey F. J., and Knoblich J. A. (2017). Guided self-organization and cortical plate formation in human brain organoids. **Nat Biotechnol.** 35, 659-666.

Bagley, J. A., Reumann, D., Bian, S., Lévi-Strauss, J., and Knoblich, J. A. (2017). Fused cerebral organoids model interactions between brain regions. **Nat Meth**, 14, 743-751

Falk, S., Bugeon, S., Ninkovic, J., Pilz, G. A., Postiglione, M. P., Cremer, H., Knoblich, J. A., and Götz, M. (2017). Time-Specific Effects of Spindle Positioning on Embryonic Progenitor Pool Composition and Adult Neural Stem Cell Seeding. **Neuron** 93, 777-791.e3.

Huch, M.\* , Knoblich, J. A.\*, Lutolf, M. P.\* , and Martinez-Arias, A.\* (2017). The hope and the hype of organoid research. **Development** 144, 938-941.

Renner, M., Lancaster, M. A., Bian, S., Choi, H., Ku, T., Peer, A., Chung, K., and Knoblich, J. A. (2017). Self-organized developmental patterning and differentiation in cerebral organoids. **EMBO J**

Li, Y., Muffat, J., Omer, A., Bosch, I., Lancaster, M. A., Sur, M., Gehrke, L., Knoblich, J. A., and Jaenisch, R. (2017). Induction of Expansion and Folding in Human Cerebral Organoids. **Cell Stem Cell** 20, 385-396.e3.

Bredenoord, A. L., Clevers, H., and Knoblich, J. A. (2017). Human tissues in a dish: The research and ethical implications of organoid technology. **Science** 355.

Landskron, L., and Knoblich, J. A. (2016). You Are What You Eat: Linking Metabolic Asymmetry and Cell Fate Choice. **Dev Cell** 37, 206-208.

Fededa, J. P., Esk, C., Mierzwa, B., Stanyte, R., Yuan, S., Zheng, H., Ebnet, K., Yan, W., Knoblich, J. A., and Gerlich, D. W. (2016). MicroRNA-34/449 controls mitotic spindle orientation during mammalian cortex development. **EMBO Journal** 35, 2386-2398.

Knoblich, J. A. (2016). Lab-Built Brains. **Scientific American** 316, 26-31.

Luo, C., Lancaster, M. A., Castanon, R., Nery, J. R., Knoblich, J. A.\*, and Ecker, J. R.\* (2016). Cerebral Organoids Recapitulate Epigenomic Signatures of the Human Fetal Brain. **Cell Rep** 17, 3369-3384.

Wissel, S., Kieser, A., Yasugi, T., Duchek, P., Roitinger, E., Gokcezade, J., Steinmann, V., Gaul, U., Mechtler, K., Förstemann, K., Knoblich, J. A.\*, and Neumüller, R. A.\* (2016). A Combination of CRISPR/Cas9 and Standardized RNAi as a Versatile Platform for the Characterization of Gene Function. **G3 (Bethesda)** 6, 2467-2478.

\* corresponding authors

Camp, J. G., Badsha, F., Florio, M., Kanton, S., Gerber, T., Wilsch-Bräuninger, M., Lewitus, E., Sykes, A., Hevers, W., Lancaster, M., Knoblich, J. A., Lachmann, R., Pääbo, S., Huttner, W. B., and Treutlein, B. (2015). Human cerebral organoids recapitulate gene expression programs of fetal neocortex development. **Proc Natl Acad Sci U S A** 112, 15672-15677.

Ballard, M. S., Zhu, A., Iwai, N., Stensrud, M., Mapps, A., Postiglione, M. P., Knoblich, J. A., and Hinck, L. (2015). Mammary Stem Cell Self-Renewal Is Regulated by Slit2/Robo1 Signaling through SNAI1 and mINSC. **Cell Rep** 13, 290-301.

Homem, C. C., Repic, M., and Knoblich, J. A. (2015). Proliferation control in neural stem and progenitor cells. **Nat Rev Neurosci** 16, 647-659.

Akbari, O. S., Bellen, H. J., Bier, E., Bullock, S. L., Burt, A., Church, G. M., Cook, K. R., Duchek, P., Edwards, O. R., Esvelt, K. M., Gantz, V. M., Golic, K. G., Gratz, S. J., Harrison, M. M., Hayes, K. R., James, A. A., Kaufman, T. C., Knoblich, J., Malik, H. S., Matthews, K. A., O'Connor-Giles, K. M., Parks, A. L., Perrimon, N., Port, F., Russell, S., Ueda, R., and Wildonger, J. (2015). Safeguarding gene drive experiments in the laboratory. **Science** 349, 927-929.

Lancaster, M. A., and Knoblich, J. A. (2014). Generation of cerebral organoids from human pluripotent stem cells. **Nat Protoc** 9, 2329-2340.

Marchetti, G., Reichardt, I., Knoblich, J. A., and Besse, F. (2014). The TRIM-NHL Protein Brat Promotes Axon Maintenance by Repressing src64B Expression. **J Neurosci** 34, 13855-13864.

Homem, C. C., Steinmann, V., Burkard, T. R., Jais, A., Esterbauer, H., and Knoblich, J. A. (2014). Ecdysone and mediator change energy metabolism to terminate proliferation in Drosophila neural stem cells. **Cell** 158, 874-888.

Mauri, F., Reichardt, I., Mummery-Widmer, J. L., Yamazaki, M., and Knoblich, J. A. (2014). The Conserved Discs-large Binding Partner Banderuola Regulates Asymmetric Cell Division in Drosophila. **Curr Biol** 24, 1811-1825.

Yasugi, T., Fischer, A., Jiang, Y., Reichert, H., and Knoblich, J. A. (2014). A regulatory transcriptional loop controls proliferation and differentiation in Drosophila neural stem cells. **PLoS One** 9, e97034.

Williams, SE., Ratliff, LA., Postiglione, MP., Knoblich, JA., Fuchs, E. (2014). Par3-mInsc and Gai3 cooperate to promote oriented epidermal cell divisions through LGN. **Nat Cell Biol.** 16, 758-769.

Ayukawa, T., Akiyama, M., Mummery-Widmer, JL., Stoeger, T., Sasaki, J., Knoblich, JA., Senoo, H., Sasaki, T., Yamazaki, M. (2014). Dachshous-Dependent Asymmetric Localization of Spiny-Legs Determines Planar Cell Polarity Orientation in Drosophila. **Cell Rep.** 8, 610-621.

Lancaster, M. A., and Knoblich, J. A. (2014). Organogenesis in a dish: modeling development and disease using organoid technologies. **Science** 345, 1247-125.

Eroglu, E., Burkard, T. R., Jiang, Y., Saini, N., Homem, C. C., Reichert, H., and Knoblich, J. A. (2014). SWI/SNF Complex Prevents Lineage Reversion and Induces Temporal Patterning in Neural Stem Cells. **Cell** 156, 1259-1273.

Hagelkruys, A., Lagger, S., Krahmer, J., Leopoldi, A., Artaker, M., Pusch, O., Zezula, J., Weissmann, S., Xie, Y., Schofer, C., Schleder, M., Brosch, G., Matthias, P., Selfridge, J., Lassmann, H., Knoblich, J. A., and Seiser, C. (2014). A single allele of Hdac2 but not Hdac1 is sufficient for normal mouse brain development in the absence of its paralog. **Development** 141, 604-616.

Jüschke, C., Dohnal, I., Pichler, P., Harzer, H., Swart, R., Ammerer, G., Mechtler, K., Knoblich, JA. (2013). Transcriptome and proteome quantification of a tumor model provides novel insights into post-transcriptional gene regulation. **Genome Biol.** 14(11):R133.

- Bardet, A. F., Steinmann, J., Bafna, S., [Knoblich, J. A.](#), Zeitlinger, J., and Stark, A. (2013). Identification of transcription factor binding sites from ChIP-seq data at high resolution. **Bioinformatics** 29, 2705-2713.
- Homem, CC., Reichardt, I., Berger, C., Lendl, T., [Knoblich, JA.](#) (2013). Long-Term Live Cell Imaging and Automated 4D Analysis of Drosophila Neuroblast Lineages. **PLoS One**. 8(11):e79588
- Juschke, C., Xie, Y., Postiglione, M. P., and [Knoblich, J. A.](#) (2013). Analysis and modeling of mitotic spindle orientations in three dimensions. **Proc Natl Acad Sci U S A**
- Lancaster, M. A., Renner, M., Martin, C. A., Wenzel, D., Bicknell, L. S., Hurles, M. E., Homfray, T., Penninger, J. M., Jackson, A. P., and [Knoblich, J. A.](#) (2013). Cerebral organoids model human brain development and microcephaly. **Nature** 501, 373-379.
- Xie, Y., Juschke, C., Esk, C., Hirotsune, S., [Knoblich, JA.](#) (2013). The Phosphatase PP4c Controls Spindle Orientation to Maintain Proliferative Symmetric Divisions in the Developing Neocortex. **Neuron**. 79(2):254-65
- Reichardt, I., [Knoblich, JA.](#) (2013). Cell biology: Notch recycling is numbered. **Curr Biol**. 23(7):R270-2
- Sparmann, A., Xie, Y., Verhoeven, E., Vermeulen, M., Lancini, C., Gargiulo, G., Hulsman, D., Mann, M., [Knoblich, J. A.](#), and van Lohuizen, M. (2013). The chromodomain helicase Chd4 is required for Polycomb-mediated inhibition of astroglial differentiation. **EMBO J** 32, 1598-1612.
- Harzer, H., Berger, C., Conder, R., Schmauss, G., [Knoblich, JA.](#) (2013). FACS purification of Drosophila larval neuroblasts for next-generation sequencing. **Nat Protoc**. 8(6):1088-99
- Homem, CC., [Knoblich, JA.](#) (2012). Drosophila neuroblasts: a model for stem cell biology. **Development** 139(23):4297-310
- Goulas, S., Conder, R., [Knoblich, JA.](#) (2012). The par complex and integrins direct asymmetric cell division in adult intestinal stem cells. **Cell Stem Cell** 11(4):529-40
- Berger, C., Harzer, H., Burkard, TR., Steinmann, J., van der Horst, S., Laurenson, AS., Novatchkova, M., Reichert, H., [Knoblich, JA.](#) (2012). FACS purification and transcriptome analysis of drosophila neural stem cells reveals a role for Klumpfuss in self-renewal. **Cell Rep**. 2(2):407-18
- Lancaster, M.A., [Knoblich J.A.](#) (2012). Spindle orientation in mammalian cerebral cortical development. **Curr Opin Neurobiol** 22, 737-746.
- Postiglione, M. P., Juschke, C., Xie, Y., Haas, G. A., Charalambous, C., and [Knoblich, J. A.](#) (2011). Mouse inscuteable induces apical-basal spindle orientation to facilitate intermediate progenitor generation in the developing neocortex. **Neuron** 72, 269-284.
- Richter, C., Oktaba, K., Steinmann, J., Muller, J., and [Knoblich, J. A.](#) (2011). The tumour suppressor L(3)mbt inhibits neuroepithelial proliferation and acts on insulator elements. **Nat Cell Biol** 13, 1029-1039.
- Neumüller R.A., Constance Richter, C., Fischer, A., Novatchkova, M., Neumüller, K.G. and [Knoblich, J.A.](#) (2011) Genome wide analysis of self-renewal in Drosophila neural stem cells by transgenic RNAi. **Cell Stem Cell** 8, 580-593.

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Khazaei, M. R., Bunk, E. C., Hillje, A. L., Jahn, H. M., Riegler, E. M., Knoblich, J. A., Young, P., and Schwamborn, J. C. (2011). The E3-ubiquitin ligase TRIM2 regulates neuronal polarization. **J Neurochem** *117*, 29-37.

Knoblich, J. A. (2010). Asymmetric cell division: recent developments and their implications for tumour biology. **Nat Rev Mol Cell Biol** *11*, 849-860.

Neumüller, R.A. and Knoblich, J.A. (2009). Dividing cellular asymmetry: asymmetric cell division and its implications for stem cells and cancer. **Genes Dev** *23*, 2675-2699.

Conder, R., and Knoblich, J. A. (2009). Fly stem cell research gets infectious. **Cell** *137*, 1185-1187.

Neumuller, R. A., and Knoblich, J. A. (2009). Wicked views on stem cell news. **Nat Cell Biol** *11*, 678-679.

Coumailleau, F., Fürthauer, M., Knoblich, J.A. and González-Gaitán, M. (2009). Directional Delta/Notch trafficking in asymmetric Sara endosomes during asymmetric cell division. **Nature**, *458*, 1051-1055.

Mummery-Widmer, J.L., Yamazaki, M., Stoeger, T., Novatchkova, M., Chen, D., Dietzl, G., Dickson, B.J., and Knoblich, J.A. (2009) Genome-wide analysis of *Drosophila* external sensory organ development by transgenic RNAi, **Nature**, *458*, 987-992.

Schwamborn, J.C. Berezikov, E., and Knoblich, J.A. (2009). The TRIM-NHL protein TRIM32 activates microRNAs and prevents self-renewal in mouse neural progenitors, **Cell**, *136*, 913-925.

Barral, Y., and Knoblich, J. (2008). Cell division, growth and death (Editorial Overview). **Curr Opin Cell Biol** *20*, 647-649.

Benetka, W., Mehlmer, N., Maurer-Stroh, S., Sammer, M., Koranda, M., Neumuller, R., Betschinger, J., Knoblich, J. A., Teige, M., and Eisenhaber, F. (2008). Experimental testing of predicted myristoylation targets involved in asymmetric cell division and calcium-dependent signalling. **Cell Cycle** *7*, 3709-3719.

Wirtz-Peitz, F., Nishimura, T., and Knoblich, J.A. (2008). Linking cell cycle to asymmetric division: Aurora-A phosphorylates the Par complex to regulate Numb localization, **Cell**, *135*, 161-173.

Neumüller, R.A., Betschinger, J., Fischer, A., Bushati, N., Poernbacher, I., Mechtler, K., Stephen M. Cohen, S.M. and Knoblich, J.A. (2008). Mei-P26 regulates micro RNAs and cell growth in the *Drosophila* ovarian stem cell lineage, **Nature**, *454*, 241-245.

Speicher, S., Fischer, A., Knoblich, J. A., and Carmena, A. (2008) The PDZ Protein Canoe Regulates the Asymmetric Division of *Drosophila* Neuroblasts and Muscle Progenitors . **Curr Biol**, *18*, 831-837.

Bowman, S. K., Rolland, V., Betschinger, J., Kinsey, K. A., Emery, G., and Knoblich, J. A. (2008). The Tumor Suppressors Brat and Numb Regulate Transit-Amplifying Neuroblast Lineages in *Drosophila*. **Dev Cell**, *14*, 535-546.

Schwamborn, J.C. and Knoblich, J.A. (2008) Lis1 and spindle orientation in neuroepithelial cells. **Cell Stem Cell**, *2*, 193-194.

Knoblich, J.A. (2008) Mechanisms of Asymmetric Stem Cell Division, **Cell**, *132*, 583-597.

Jüschke, C. and Knoblich, J.A. (2008) Purification of *Drosophila* Protein Complexes for Mass Spectrometry, **Methods Mol Biol.**, *420*, 347-58.

Knoblich, J.A. (2007) On the backroads to cellular asymmetry, **Development** *134*, 4311-4313.

Knoblich, J. A. (2006). Cell biology. Sara splits the signal. **Science** *314*, 1094-1096.

Gallagher, C. and Knoblich, J.A. (2006) The conserved C2 domain protein Lethal (2) giant discs regulates protein trafficking in *Drosophila*. **Dev Cell**, *11*, 641-653.

Emery, G. and Knoblich, J.A. (2006). Endosome dynamics during development. **Curr Opin Cell Biol**, 18, 407-415.

Hutterer, A., Berdnik, D., Wirtz-Peitz, F., Zigman, M., Schleiffer, A. and Knoblich, J. A. (2006). Mitotic activation of the kinase Aurora-A requires its binding partner Bora. **Dev Cell**, 11, 147-157.

Bowman, S. K., Neumuller, R. A., Novatchkova, M., Du, Q., and Knoblich, J. A. (2006). The Drosophila NuMA Homolog Mud Regulates Spindle Orientation in Asymmetric Cell Division. **Dev Cell** 10, 731-742.

Wirtz-Peitz, F., and Knoblich, J. A. (2006). Lethal giant larvae take on a life of their own. **Trends Cell Biol** 16, 234-241.

Betschinger, J., Mechtler, K., and Knoblich, J. A. (2006). Asymmetric segregation of the tumor suppressor brat regulates self-renewal in Drosophila neural stem cells. **Cell** 124, 1241-1253.

Vishnu, S., Hertenstein, A., Betschinger, J., Knoblich, J. A., Gert de Couet, H., and Fischbach, K. F. (2006). The adaptor protein X11Lalpha/Dmint1 interacts with the PDZ-binding domain of the cell recognition protein Rst in Drosophila. **Dev Biol** 289, 296-307

Knoblich, J.A. (2005) Pins for Spines. **Nature Cell Biology**, 7, 1057-1058.

Zigman, M., Cayouette, M., Charalambous, C., Schleiffer, A., Hoeller, O., Dunican, D., McCudden, C.R., Firnberg, R., Barres, B.A., Siderovski, D.P. and Knoblich, J.A. (2005) Mammalian Inscuteable regulates spindle orientation and cell fate in the developing retina. **Neuron**, 48, 539-545.

Mayer, B., Emery, G., Berdnik, D., Wirtz-Peitz, F. and Knoblich, J.A. (2005) Quantitative analysis of protein dynamics during asymmetric cell division. **Curr Biol**, 15, 1847-1854.

Hampoelz, B., Hoeller, O., Bowman, S.K., Dunican, D., and Knoblich, J.A. (2005) Drosophila Ric-8 is essential for plasma membrane localization of heterotrimeric G proteins. **Nature Cell Biology**, 7, 1099-1105.

Jafar-Nejad, H., Andrews, H. K., Acar, M., Bayat, V., Wirtz-Peitz, F., Mehta, S. Q., Knoblich, J. A., and Bellen, H. J. (2005). Sec15, a Component of the Exocyst, Promotes Notch Signaling during the Asymmetric Division of Drosophila Sensory Organ Precursors. **Dev Cell** 9, 351-363.

Emery, G., Hutterer, A., Berdnik, D., Mayer, B., Wirtz-Peitz, F., Gonzalez Gaitan, M., and Knoblich, J. A. (2005). Asymmetric rab11 endosomes regulate Delta recycling and specify cell fate in the Drosophila nervous system. **Cell** 122, 763-773.

Bhalerao, S., Berdnik, D., Torok, T., and Knoblich, J. A. (2005). Localization-dependent and - independent roles of numb contribute to cell-fate specification in *Drosophila*. **Curr Biol** 15, 1583-1590.

Hutterer, A., and Knoblich, J. A. (2005). Numb and alpha-Adaptin regulate Sanpodo endocytosis to specify cell fate in Drosophila external sensory organs. **EMBO Rep** 6, 836-842.

Zarnescu, D. C., Jin, P., Betschinger, J., Nakamoto, M., Wang, Y., Dockendorff, T. C., Feng, Y., Jongens, T. A., Sisson, J. C., Knoblich, J. A., Warren, S. T., and Moses, K. (2005). Fragile x protein functions with Igl and the par complex in flies and mice. **Dev Cell** 8, 43-52.

Betschinger, J., Eisenhaber, F., and Knoblich, J. A. (2005). Phosphorylation-induced autoinhibition regulates the cytoskeletal protein Lethal (2) giant larvae. **Curr Biol** 15, 276-282.

Knoblich, J. A. (2005). Neurobiology: getting axons going. **Nature** 436, 632-633.

Hampoelz, B., and Knoblich, J. A. (2004). Heterotrimeric G proteins: new tricks for an old dog. **Cell** 119, 453-456.

Betschinger, J., and Knoblich, J. A. (2004). Dare to Be Different: Asymmetric Cell Division in *Drosophila*, *C. elegans* and Vertebrates. **Curr Biol** 14, R674-685.

- Hutterer, A., Betschinger, J., Petronczki, M., and Knoblich, J. A. (2004). Sequential Roles of Cdc42, Par-6, aPKC, and Lgl in the Establishment of Epithelial Polarity during *Drosophila* Embryogenesis. **Dev Cell** 6, 845-854.
- Subramanian, A., Prokop, A., Yamamoto, M., Sugimura, K., Uemura, T., Betschinger, J., Knoblich, J. A., and Volk, T. (2003). Shortstop recruits EB1/APC1 and promotes microtubule assembly at the muscle-tendon junction. **Curr Biol** 13, 1086-1095.
- Blumer, J. B., Bernard, M. L., Peterson, Y. K., Nezu, J., Chung, P., Dunican, D. J., Knoblich, J. A., and Lanier, S. M. (2003). Interaction of activator of G-protein signaling 3 (AGS3) with LKB1, a serine/threonine kinase involved in cell polarity and cell cycle progression: phosphorylation of the G-protein regulatory (GPR) motif as a regulatory mechanism for the interaction of GPR motifs with Gi alpha. **J Biol Chem** 278, 23217-23220.
- Betschinger, J., Mechtler, K. and Knoblich, J.A. (2003). The Par complex directs asymmetric cell division by phosphorylating the cytoskeletal protein Lgl. **Nature**, 422, 326-330.
- Berdnik, D., Török, T., González-Gaitán, M., and Knoblich, J. A. (2002). The Endocytic Protein  
-Adaptin Is Required for Numb-Mediated Asymmetric Cell Division in *Drosophila*. **Developmental Cell**, 3, 221–231.
- Berdnik, D. and Knoblich, J. A. (2002). *Drosophila* Aurora-A is required for centrosome maturation and actin dependent asymmetric protein localization during mitosis. **Current Biology**, 12, 640-647.
- Tekotte, H. Berdnik, D., Török, T., Buszczak, M., Jones, L. M., Cooley, L., Knoblich, J. A. and Davis, I (2002). *dcas* is required for importin-3 nuclear export and mechanosensory organ cell fate specification in *Drosophila*. **Developmental Biology**, 244, 396-406.
- Knoblich, J. A. (2001). The *Drosophila* nervous system as a model for asymmetric cell division. **Symp. Soc. Exp. Biol.** 53, 75-89.
- Schaefer, M., Petronczki, M., Dorner, D., Forte, M. and Knoblich, J.A. (2001). Heterotrimeric G-Proteins Direct Two Modes of Asymmetric Cell Division in the *Drosophila* Nervous System. **Cell**, 107, 183-194.
- Huynh, J. R., Petronczki, M, Knoblich, J. A., and St Johnston D. (2001). Bazooka and PAR-6 are required with PAR-1 for the maintenance of oocyte fate in *Drosophila*. **Curr Biol.** 11, 901-906.
- Schaefer, M. and Knoblich, J. A. (2001). Protein Localization during Asymmetric Cell Division. **Experimental Cell Research**, 271, 66-74.
- Bulgheresi, S., Kleiner, E. and Knoblich, J.A. (2001). Inscuteable dependent apical localization of the microtubule-binding protein Cornetto suggests a role in asymmetric cell division. **Journal of Cell Science**, 114, 3655-3662.
- Knoblich, J. A. (2001). Asymmetric Cell Division During Animal Development. **Nature Reviews Molecular Cell Biology**, 2, 11-20.



Knoblich, J.A. (2001). The *Drosophila* nervous system as a model for asymmetric cell division. In: **Brain Stem Cells**. Ed. Miyazawa, J., Beesley, P. and Thorndyke, M. (BIOS Scientific Publishers, Oxford). 75-89.

Petronczki, M. and Knoblich, J.A. (2001). DmPAR-6 directs epithelial polarity and asymmetric cell division of neuroblasts in *Drosophila*. **Nature Cell Biology**, 3, 43-49.

Knoblich, J.A. (2000). Epithelial polarity: The ins and outs of the fly epidermis. **Current Biology**, 10, R791-794.

Schaefer, M., Shevchenko, A., Shevchenko, A. and Knoblich, J. A. (2000). A protein complex containing Inscuteable and the G alpha binding protein Pins is implicated in orienting asymmetric cell divisions in *Drosophila*. **Current Biology**, 10, 353-362.

Schober, M., Schaefer, M., and Knoblich, J.A. (1999). Bazooka recruits Inscuteable to orient asymmetric cell divisions in *Drosophila* neuroblasts. **Nature** 402, 548-551.

Knoblich, J.A., Jan, L.Y., and Jan, Y.N. (1999). Deletion analysis of the *Drosophila* Inscuteable protein reveals domains for cortical localization and asymmetric localization. **Current Biology** 11, 155-158.

Glotzer, M. and Knoblich, J.A. (1998). Cell multiplication (editorial overview). **Current Opinion in Cell Biology** 10, 739-741.

Jacobs, H., Knoblich, J.A., and Lehner, C.F. (1998). *Drosophila* Cyclin B3 is required for female fertility and is dispensable for mitosis like Cyclin B. **Genes and Development** 12, 3741-3751.

Shen, C. P., Knoblich, J. A., Chan, Y. M., Jiang, M. M., Jan, L. Y., and Jan, Y. N. (1998). Miranda as a multidomain adapter linking apically localized inscuteable and basally localized Staufien and Prospero during asymmetric cell division in *Drosophila*. **Genes and Development** 12, 1837-46.

Knoblich, J. A., Jan, L. Y., and Jan, Y. N. (1997). The N terminus of the *Drosophila* Numb protein directs membrane association and actin-dependent asymmetric localization. **Proc Natl Acad Sci U S A** 94, 13005-10.

Knoblich, J. A., Jan, L. Y., and Jan, Y. N. (1997). Asymmetric segregation of the *Drosophila* Numb protein during mitosis: facts and speculations. **Cold Spring Harb Symp Quant Biol** 62, 71-7.

Knoblich, J. A. (1997). Mechanisms of asymmetric cell division during animal development. **Curr Opin Cell Biol** 9, 833-41.

Frise, E., Knoblich, J.A., Younger-Shepherd, S., Jan, L.Y., and Jan, Y.N. (1996). The *Drosophila* Numb protein inhibits signaling of the Notch receptor during cell-cell interaction in sensory organ lineage. **PNAS** 93, 11925-11932.

Kraut, R., Chia, W., Jan, L.Y., Jan, Y.N., and Knoblich, J.A. (1996). Role of *inscuteable* in orienting asymmetric cell divisions in *Drosophila*. **Nature** 383, 50-55.

Knoblich, J.A., Jan, L.Y. and Jan, Y.N. (1995). Asymmetric segregation of Numb and Prospero during cell division. **Nature** 377, 624-627.

Rhyu, M.S. and Knoblich, J.A. (1995). Spindle orientation and asymmetric cell fate. **Cell** 82, 523-526.

Sauer, K., Knoblich, J.A., Richardson, H. and Lehner, C.F. (1995). Distinct modes of cyclin E/cdc2c kinase regulation and S-phase control in mitotic and endoreduplication cycles of *Drosophila* embryogenesis. **Genes and Development** 9, 1327-1329.

Kreutzer, M.A., Richards, J.P., De Silva-Udawatta, M.N., Temenak, J.J., Knoblich, J.A., Lehner, C.F., and Bennett, K.L. (1995). *Caenorhabditis elegans* cyclin A- and B-type genes: A cyclin A multigene family, an ancestral cyclin B3 and differential germline expression. **Journal of Cell Science** 108, 2415-2424.

Knoblich, J.A., Sauer, K., Jones, L., Richardson, H., Saint, R. and Lehner, C.F. (1994). Cyclin E controls S phase progression and its down-regulation during *Drosophila* embryogenesis is required for the arrest of cell proliferation. **Cell** 77, 107-129.

Knoblich, J.A. and Lehner, C.F. (1993). Synergistic action of *Drosophila* cyclins A and B during the G2-M transition. **EMBO Journal** 12, 65-74.

Lehner, C.F., Ried, G., Stern, B. and Knoblich, J.A. (1992). Cyclins and cdc2 kinases in *Drosophila*: genetic analyses in a higher eukaryote. **Ciba Foundation Symposium** 170, 97-109.