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EDUCATION AND TRAINING

YEARS	DEGREE	FIELD OF STUDY	INSTITUTION AND LOCATION
2023	Dr. habil.	Developmental Biology	Recognition of Habilitation in Developmental Biology, Hannover Medical School, Hannover, Germany
2012	Dr. habil.	Developmental Biology	Georg-August-University, Göttingen, Germany
2003-2007	Postdoc	Biochemistry, Stem Cell Biology	University of Washington, Seattle, WA, USA
1996,1998	Postdoc	Developmental Biology, Neurobiology	Basel University, Switzerland
1992-1996	PhD	Genetics	Institute for Plant Physiology and Genetics, Kyiv, Ukraine, Lviv National University, Ukraine
1987-1992	MSc	Biology and Chemistry	Lviv National University, Lviv, Ukraine

POSITIONS AND EMPLOYMENT

YEARS	POSITION	INSTITUTION AND LOCATION
Sep 2018-present	Professor in Biochemistry of Cellular Signal Transduction	Institute of Cell Biochemistry, Hannover Medical School, Hannover, Germany
2008 – 2018	Max Planck Research Group Leader	Max Planck Institute for biophysical chemistry, Göttingen, Germany
2007-2008	Research Professor (Acting Instructor)	Department of Biochemistry, Institute for Stem Cell and Regenerative Medicine, University of Washington, Seattle, WA, USA
2003-2007	Postdoc (Senior Fellow) Ruohola-Baker Lab	Department of Biochemistry, University of Washington, Seattle, WA, USA
2000-2003	Assistant Professor	Department of Genetics and Biotechnology, Lviv National University, Ukraine
1996-2000	Scientific Researcher	Department of Genetics and Biotechnology, Lviv National University, Ukraine
1996,1998	Visiting Scientist Heinrich Reichert Lab	Basel University, Switzerland
1992-1996	PhD Student	Department of Genetics and Biotechnology, Lviv National University, Lviv, Ukraine Institute of Gene Biology, Moscow, Russia
1987-1992	Student	Department of Genetics and Biotechnology, Lviv National University, Lviv, Ukraine

AWARDS AND HONORS

2018	Honorary Professorship at the Georg-August-University, Göttingen, Germany
2014	Selected for the EMBO Young Investigator Programme
2005	American Heart Association Award for Postdoctoral Fellows
2002	West-Ukrainian Biomedical Research Award for Postdocs
2000	George Soros Award for Young Scientists

ACADEMIC LEADERSHIP, INTERNATIONAL SCIENTIFIC SERVICE

International Scientific Leadership and Advisory Roles

- **Chair, Life Sciences and Medicine (LIF) Selection Committee,** MSCA4Ukraine Programme, funded under the EU Horizon Europe Marie Skłodowska-Curie Actions and implemented by the Alexander von Humboldt Foundation.
- **Scientific Advisory Board (SAB) Member,** CEITEC – Central European Institute of Technology, Masaryk University (MUNI), Brno, Czech Republic.
- **Executive Board Member,** Molecular Medicine Program, Hannover Biomedical Research School (HBRS), Hannover Medical School (MHH), Germany.
- **Former Executive Board Member,** Göttingen Graduate School for Neurosciences, Biophysics, and Molecular Biosciences (GGNB), Georg-August-University Göttingen, Germany.
- **Member, MHH Ukrainehilfe Working Group,** supporting scientific and medical cooperation with Ukraine.

International Research Evaluation and Peer Review

Expert Reviewer and Evaluator for major European and international research funding organizations and competitive fellowship programmes, including:

- European Research Council (ERC), European Union
- Deutsche Forschungsgemeinschaft (DFG), Germany
- Alexander von Humboldt Foundation, Germany
- Marie Skłodowska-Curie Actions (MSCA), European Commission, including Postdoctoral Fellowships and COFUND programmes (MSCA COFUND SCHADOC Doctoral Programme, France and MSCA COFUND CEIPEX Postdoctoral Programme, Czech Republic)
- Medical Research Council (MRC), United Kingdom
- Inserm ATIP-Avenir Programme, France
- AFM-Téléthon, France
- Fundação para a Ciência e a Tecnologia (FCT), Portugal
- Wellcome Trust/DBT India Alliance Fellowships, United Kingdom/India
- Hellenic Foundation for Research and Innovation (HFRI), Greece
- Estonian Research Council (ETAG), Estonia
- Graduate Women in Science (GWIS) National Fellowship Committee, United States

Editorial Leadership and Journal Peer Review

- **Editorial Board Member,** *Scientific Reports* (former). **Host Editor,** Research Topic "Genetic and Epigenetic Control of Stem Cell Fate," *Frontiers in Genetics*.
- **Peer Reviewer** for leading international journals, including *Science, Developmental Cell, The EMBO Journal, Current Biology, PLOS Biology, Development, Developmental Biology, eLife, Nature Protocols, Disease Models & Mechanisms, Scientific Reports, Scientific Data, BMC Genomics, PLOS ONE, Journal of Visualized Experiments*, and *International Journal of Neuroscience*, *etc*.

International Conference Organization and Scientific Community Leadership

- Co-organizer, EMBO RNA and Structural Biology Meetings (Würzburg, Germany, 2025; Heidelberg, Germany, 2023; Kraków, Poland, 2022; virtual meeting, 2020).
- Chair, RNA Biology Platform Session, 53rd Annual Drosophila Research Conference, USA
- Co-organizer, XXIV International Congress of Entomology, South Korea.

- Organizer, "The Extracellular Matrix" Workshops, 48th and 49th Annual Drosophila Research Conferences, USA.
- Co-organizer, Max Planck Institute Campus Seminar and Karl Friedrich Bonhoeffer Lecture Series, Göttingen, Germany.
- Invited Career Speaker and Mentor at international scientific meetings and career-development events, including Horizons in Molecular Biology, the Annual Drosophila Research Conference, Cold Spring Harbor Laboratory Drosophila Neurobiology Conference, Max Planck Institute TeaTimeTalk and EMBO Young Investigator Annual Meetings.

PROFESSIONAL MEMBERSHIPS

- Verband Biologie, Biowissenschaften und Biomedizin, Deutschland
- Gesellschaft für Biochemie und Molekularbiologie, Deutschland
- Deutsch-Ukrainische Akademische Gesellschaft, Deutschland
- Genetics Society of America, USA

THIRD-PARTY RESEARCH FUNDING

- **Deutsche Forschungsgemeinschaft (DFG)** – Research grants in microRNA regulation, neuromuscular disorders, muscle homeostasis and aging; major research instrumentation.
- **Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)** – Klinikpartnerschaften Programme: implementation of next-generation sequencing and genetic diagnostics for children with hereditary disorders in Ukraine (2023–2026).
- **VolkswagenStiftung** – Research on molecular mechanisms of neurodegeneration, microRNA-mediated neuroprotection and muscular dystrophy (2015–2024).
- **EMBO Young Investigator Programme** – Research funding for stress-dependent RNA regulation, RBFOX1 and ribonucleoprotein granule formation (2019–2024).
- **Deutscher Akademischer Austauschdienst (DAAD)** – International research collaborations in stem-cell biology, RNA regulation and developmental biology (2018–2023).
- **American Heart Association (AHA)** – Research on the Dystrophin–Dystroglycan complex and mechanisms of muscular dystrophy (2005–2008).
- **Behrens-Weise-Stiftung** – MicroRNAs in Drosophila models of human neurodegenerative disorders (2016–2019).
- **Niedersächsisches Ministerium für Wissenschaft und Kultur (MWK)** – Research funding through the MWK Europa-Programm.
- **Morris Discovery Fund, MDI Biological Laboratory, USA** – Modular functions of the disease-associated RNA-binding protein RBFOX1 (2025).

TEACHING AND MENTORSHIP

- **Examiner and Admissions Committee Member,** IMPRS Molecular Biology Programme (Göttingen) and Hannover Biomedical Research School (HBRS).
- **Doctoral Mentorship:** Thesis Advisory Committee Member for over 40 PhD researchers.
- **Research Supervision:** Supervised over 60 Bachelor-level research projects, 40 Master's/Diploma theses, 16 PhD dissertations, and one Habilitation.

SELECTED INVITED AND KEYNOTE LECTURES

Invited and keynote speaker at numerous international meetings, including the Maine Biological and Medical Sciences Symposium (Bar Harbor, USA, 2023), the joint meeting of the German and Dutch Societies for Developmental Biology (Hohenheim, Germany, 2022), the Mechanisms of Cellular Resilience Symposium (Salisbury Cove, USA, 2022), the EMBO Conference on RNA Localization and Local Translation (Sant Feliu De Guixols, Spain, 2022), the Biotech Research and Innovation Centre, University of Copenhagen (Denmark, 2019), the Journées de l'école doctorale de Nice, IBV – Institute of Biology Valrose (France, 2019, keynote), the FASEB Conference on RNA Local Translation (Aspen, USA, 2019), the EMBL Symposium "The Complex Life of mRNA" (Germany, 2016, EMBO YIP Lecture), ESPCI Paris (France, 2017), and the Spanish National Research Council/University Pablo de Olavide (Sevilla, Spain, 2016), *etc.*

RESEARCH PROFILE AND MAJOR SCIENTIFIC CONTRIBUTIONS

My research seeks to understand how **RNA-dependent regulatory mechanisms preserve cellular identity, tissue integrity, and organismal resilience during development, stress, and aging, and how their disruption drives human disease.** Using *Drosophila* as a powerful genetic model, my laboratory has made fundamental contributions to understanding how microRNAs (miRNAs), RNA-binding proteins, and cellular signaling networks coordinate gene expression and maintain homeostasis. Our work bridges fundamental RNA biology with the molecular mechanisms of neurodevelopmental disorders, neurodegeneration, muscular dystrophies, and age-related tissue degeneration.

PIONEERING THE ROLE OF MICRORNAS IN STEM-CELL REGULATION AND DEVELOPMENTAL ROBUSTNESS. My early work provided some of the first experimental evidence that the miRNA pathway regulates stem-cell division (*Nature*, 2005) and revealed developmental stage-specific requirements for miRNAs in stem-cell maintenance (*Cell Stem Cell*, 2007). Building on these discoveries, my independent research established how miRNAs integrate hormonal and developmental signaling to control neuronal identity, stem-cell differentiation, and tissue organization (*EMBO Journal*, 2011, 2012; *Developmental Cell*, 2014). These studies helped establish miRNAs not merely as repressors of gene expression but as essential regulators of developmental timing, cell-fate decisions, and biological robustness.

UNCOVERING RNA-DEPENDENT MECHANISMS OF STRESS ADAPTATION AND CELLULAR RESILIENCE. My laboratory demonstrated that miRNA-mediated regulation of the disease-associated RNA-binding protein RBFOX1 controls stress-induced ribonucleoprotein (RNP) granule formation and cell survival (*Nature Communications*, 2018). We also uncovered how alternative 3′UTRs enable selective miRNA targeting and buffering of essential proteins (*Nature Communications*, 2014). These discoveries provide a foundation for our current research into how the modular architecture of RBFOX1 controls RNA recognition, intracellular localization, RNP organization, and stress-responsive gene regulation, including previously unexplored functions associated with mitochondria.

REVEALING MOLECULAR MECHANISMS OF MUSCULAR DYSTROPHY AND AGE-RELATED MUSCLE DEGENERATION. My laboratory established *Drosophila* models to investigate the Dystrophin–Glycoprotein Complex (DGC), identifying previously unrecognized mechanisms that regulate muscle integrity and neural development (*The EMBO Journal*, 2007). We discovered that miRNAs precisely control Dystroglycan expression during development (*Developmental Cell*, 2014; *Nature Communications*, 2014), identified the involvement of Hippo signaling in muscular dystrophy and age-dependent muscle atrophy (*BMC Medicine*, 2020), and demonstrated that exocyst-dependent Dystroglycan trafficking is essential for brain compartmentalization (*eLife*, 2021). Our ongoing research investigates how protein turnover, RNA regulation, and age-dependent stress converge on Dystroglycan stability, with the goal of identifying mechanisms that protect against muscle wasting.

CONNECTING RNA REGULATION, LIPID HOMEOSTASIS, AND NEURONAL DYSFUNCTION TO NEURODEGENERATIVE DISEASE. Expanding our research into the nervous system, we uncovered a critical role for the neuropathy-associated protein PNPLA6/NTE in maintaining lipid metabolism, lysosomal function, neuroinflammatory balance, and blood–brain barrier integrity (*eLife*, 2024). Our recent work further explores the relationship between lipid droplets, lysosomes, and age-related neurodegeneration (*Progress in Lipid Research*, 2025). Current studies investigate unconventional nucleolar functions of Argonaute 1 in ribosomal RNA regulation and cell growth, as well as serotonin receptor signaling as a potential therapeutic target in Tau-associated neurodevelopmental and neurodegenerative pathology (bioRxiv preprints, 2026).

Research strategy and impact. Our laboratory combines advanced *Drosophila* genetics, genome editing, quantitative imaging, molecular and cellular biology, RNA sequencing, proteomics, and computational analyses with organism-level functional studies. By integrating molecular mechanisms with tissue physiology and disease phenotypes, we aim to identify conserved regulatory principles and mechanisms that can ultimately inform therapeutic strategies.

Our overarching scientific ambition is to understand how RNA regulatory networks encode biological robustness, and how these mechanisms can be harnessed to prevent or counteract cellular dysfunction, aging, and disease.

PUBLICATION LIST

ORIGINAL PAPERS

1. Hebalkar RY, Schumann N, Yatsenko AS, Loureiro RJ, Gresova K, Guenzel S, Alexiou P, Seiler M, Bujnicki JM, Shcherbata HR. (**2026**) Argonaute 1 associates with nucleolar snoRNP machinery and regulates pre-rRNA levels and cell growth. ***bioRxiv*** 2026.10.19.759891

2. Tsap MI, Navrotska VV, Labus J, Ponimaskin E, Yatsenko AS, Shcherbata HR. **(2026)** A conserved serotonin receptor pathway is a druggable modifier of Tau pathology, neural circuit formation and neurodegeneration. ***bioRxiv*** 2026.08.24.746720

3. Carney TD, Shcherbata HR. **(2026)** A single non-coding RNA locus produces small and long regulatory RNAs with distinct biological functions. ***Genetics*** 233(4):iyag141. doi: 10.1093/genetics/iyag141.PMID: 42234823

4. Ignatyeva N, Cheruiyot C, Saleem HN, Wali R, Plota D, Zhang W, Schön S, Brandenburg S, Yang Z, Steyer A, Urlaub H, Rasmussen T, Mogensen J, Pronto JRD, Döring Y, Radke MH, Shcherbata H, Lehnart SE, Janshoff A, Sossalla S, Ruhwedel T, Moebius W, Toischer K, Brügger B, Haucke V, Gotthardt M, Voigt N, Ebert A. **(2026)** Targeting intracellular cholesterol imbalance rescues sarcomere-ER contact site signaling and ER remodeling in dilated cardiomyopathy. ***Signal Transduct Target Ther*** 11(1):237. doi: 10.1038/s41392-026-02731-3.PMID: 42303996

5. Tsap MI, Shcherbata HR. (**2025**) The balancing act between lipid droplets and lysosomes for membrane functionality in age-related neurodegeneration and inflammation. ***Prog Lipid Res*** 99:101341. https://doi.org/10.1016/j.plipres.2025.101341

6. Charles Cano F, Kloos A, Hebalkar RY, Plenge T, Geffers R, Kirchhoff H, Kattre N, Görlich K, Büsche G, Shcherbata HR, Scherr M, Döhner K, Gabdoulline R, Heuser M. (**2025**) XPO1-dependency of DEK::NUP214 leukemia. ***Leukemia*** 39(5):1102–1113. https://doi.org/10.1038/s41375-025-02570-1

7. Ibrahim NK, Schreek S, Cinar B, Stasche AS, Lee SH, Zeug A, Dolgner T, Niessen J, Ponimaskin E, Shcherbata H, Fehlhaber B, Bourquin JP, Bornhauser B, Stanulla M, Pich A, Gutierrez A, Hinze L. (**2025**) SOD2 is a regulator of proteasomal degradation promoting an adaptive cellular starvation response. ***Cell Rep*** 44(4):115434.

8. Kyriazi D, Voth L, Bader A, Ewert W, Gerlach J, Elfrink K, Franz P, Tsap MI, Schirmer B, Damiano-Guercio J, Hartmann FK, Plenge M, Salari A, Schöttelndreier D, Strienke K, Bresch N, Salinas C, Gutzeit HO, Schaumann N, Hussein K, Bähre H, Brüsch I, Claus P, Neumann D, Taft MH, Shcherbata HR, Ngezahayo A, Bähler M, Amiri M, Knölker HJ, Preller M, Tsiavaliaris G. (**2024**) An allosteric inhibitor of RhoGAP class-IX myosins suppresses the metastatic features of cancer cells. ***Nat Commun*** 15(1):9947.

9. Stephan T, Stoldt S, Barbot M, Carney TD, Lange F, Bates M, Bou Dib P, Inamdar K, Shcherbata HR, Meinecke M, Riedel D, Dennerlein S, Rehling P, Jakobs S. (**2024**) *Drosophila* MIC10b can polymerize into cristae-shaping filaments. ***Life Sci Alliance***. Jan 22;7(4):e202302177. doi: 10.26508/lsa.202302177.

10. Tsap MI, Yatsenko AS, Hegermann J, Beckmann B, Tsikas D, Shcherbata HR. Unraveling the link between neuropathy target esterase NTE/SWS, lysosomal storage diseases, inflammation, abnormal fatty acid metabolism, and leaky brain barrier. (**2024**) ***Elife***. Apr 25;13:e98020. doi: 10.7554/eLife.98020.

11. Carney TC, Hebalkar R, Edeleva E, Çiçek IO, Shcherbata, H.R. (**2023**). Signaling through the Dystrophin Glycoprotein Complex affects the stress-dependent transcriptome in *Drosophila*. ***Dis Model Mech.*** dmm.049862. doi: 10.1242/dmm.049862.

12. Cano FC, Kloos A, Hebalkar RY, Gabdoulline R, Fangmann T, Landesman Y, Döhner K, Shcherbata HR, Ganser A, Heuser M. (**2022**) DEK-NUP214 Acute Myeloid Leukemia Depends on CRM1 In Vivo. ***Blood*** *140*:4938–4939. 10.1182/blood-2022-155836

13. Karki P, Carney TC, Maracci C, Yatsenko AS, *Shcherbata H.R, *Rodnina MV. (**2022**). Tissue-specific regulation of translational readthrough tunes functions of the traffic jam transcription factor. ***Nucleic Acids Research***, doi:10.1093/nar/gkab1189. *-author for correspondence

14. Yatsenko, A. S., M. M. Kucherenko, Y. Xie, H. Urlaub, and H.R. Shcherbata. **(2021).** Exocyst-mediated membrane trafficking of the lissencephaly-associated ECM receptor Dystroglycan is required for proper brain compartmentalization. ***Elife*** 10: 7554/eLife.63868

15. Melentev PA, Ryabova EV, Surina NV, Zhmujdina DR, Komissarov AE, Ivanova EA, Boltneva NP, Makhaeva GF, Sliusarenko MI, Yatsenko AS, Mohylyak II, Matiytsiv NP, Shcherbata H.R, Sarantseva SV.

(2021). Loss of *swiss cheese* in neurons contributes to neurodegeneration with mitochondria abnormalities, reactive oxygen species acceleration and accumulation of lipid droplets in *Drosophila* brain. ***Int J Mol Sci.*** 22(15):8275. doi: 10.3390/ijms22158275.

16. Yatsenko AS and Shcherbata HR. (**2021**). Distant activation of Notch signaling induces stem cell niche assembly. ***PLoS Genetics***, 17(3):e1009489.

17. Petriv, N., L. Neubert, M. Vatashchuk, K. Timrott, H. Suo, I. Hochnadel, R. Huber, C. Petzold, A. Hrushchenko, A.S. Yatsenko, H.R. Shcherbata, H. Wedemeyer, R. Lichtinghagen, H. Falfushynska, V. Lushchak, M.P. Manns, H. Bantel, H. Semchyshyn, and T. Yevsa. **(2021).** Increase of Alpha-Dicarbonyls in Liver and Receptor for Advanced Glycation End Products on Immune Cells Are Linked to Nonalcoholic Fatty Liver Disease and Liver Cancer. ***Oncoimmunology*** 10: 1874159.

18. Ryabova, E.V. Melentev, P.A. Komissarov, A.E. Surina, N.V. Ivanova, E.A. Matiytsiv, N. Shcherbata, H.R. Sarantseva, S.V. **(2021).** Morpho-Functional Consequences of Swiss Cheese Knockdown in Glia of Drosophila melanogaster. ***Cells***, 10, 529.

19. Yatsenko AS, Kucherenko MM, Xie Y, Aweida D, Urlaub H, Scheibe RJ, Cohen S, Shcherbata HR. (**2020**). Profiling of the muscle-specific dystroglycan interactome reveals the role of Hippo signaling in muscular dystrophy and age-dependent muscle atrophy. ***BMC Medicine***, **18**(1):8.

20. Kucherenko, M and Shcherbata H.R. (**2018**). Stress dependent miR-980 regulation of Rbfox1/A2bp1 promotes ribonucleoprotein granule formation and cell survival. ***Nature Communications***, doi: 10.1038/s41467-017-02757

21. Yatsenko A. and Shcherbata H.R. (**2018**) Stereotypical architecture of the stem cell niche is spatiotemporally established by *miR-125*-dependent coordination of Notch and steroid signaling, ***Development***, doi: 10.1242/dev.159178.

22. Çiçek, IO, Karaca, S, Brankatschk, M, Eaton, S, Urlaub, H and Shcherbata, H.R. (**2016**). The *mir-310s* target Hh signaling to rebalance the metabolic status and sustain healthy homeostasis upon dietary changes, ***Genetics.*** 202(3):1167-83.

23. Kucherenko, MM, Ilangovan, V, Herzig, B, * Shcherbata, H.R. and *Bringmann, H. (**2016**). TfAP-2 is required for night sleep in *Drosophila*. ***BMC Neuroscience***, 9;17(1):72. *-author for correspondence

24. Konig, A. and Shcherbata, H. R. (**2015**). Soma influences GSC progeny differentiation via the cell adhesion-mediated steroid-let-7-Wingless signaling cascade that regulates chromatin dynamics, ***Biology Open.*** 6;4(3):285-300.

25. Yatsenko, A. S. and Shcherbata, H. R. (**2014**). *Drosophila* miR-9a targets the ECM receptor Dystroglycan to canalize myotendinous junction formation, ***Developmental Cell*** 28(3): 335-48.

26. Fagegaltier, D., Konig, A., Gordon, A., Lai, E. C., Gingeras, T. R., Hannon, G. J. and Shcherbata, H. R. (**2014**). A genome-wide survey of sexually dimorphic expression of *Drosophila* miRNAs Identifies the steroid hormone-induced miRNA let-7 as a regulator of sexual identity, ***Genetics*** 198(2): 647-68.

27. Yatsenko, A. S., Marrone, A. K. and Shcherbata, H. R. (**2014**). miRNA-based buffering of the cobblestone-lissencephaly-associated extracellular matrix receptor dystroglycan via its alternative 3'-UTR', ***Nature Communications*** 5: 4906.

28. Yatsenko, A. S., Marrone, A. K., Kucherenko, M. M. and Shcherbata, H. R. (**2014**) Measurement of metabolic rate in *Drosophila* using respirometry, ***J Vis Exp*** (88): e51681.

29. Kucherenko MM, Shcherbata HR (**2013**) Steroids as external temporal codes act via miRNAs and cooperate with cytokines in differential neurogenesis. ***Fly*** (Austin). 7(3):173-183.

30. Kucherenko M.M., Barth J., Fiala A., Shcherbata H.R. (**2012**). Steroid-induced microRNA *let-7* acts as a spatio--temporal code for neuronal cell fate in the developing *Drosophila* brain. ***EMBO J*** 31(24): 4511-4523.

31. Marrone A.K., Edeleva E., Kucherenko M.M., Hsiao N-H., Shcherbata H.R. (**2012**). Dg-Dys-Syn1 signaling in *Drosophila* normalizes basic cellular processes in the musculature and nervous system via microRNAs. ***BMC Cell Biology*** 13: 26.

32. Karpiuk O., Najafova Z., Galonska C, Kramer F., König A., Snaidero N., Shchebet A., Vogel T., Kassem M., Hennion M., Begus-Nahrmann Y., Simons M., Shcherbata H.R, Beissbarth T., Johnsen S.A. (**2012**). The histone H2B monoubiquitination regulatory pathway is required for differentiation of

multipotent stem cells. ***Molecular Cell*** 46(5): 705-713.

33. Konig, A., Yatsenko, A.S., Weiss, M., and Shcherbata, H.R. (**2011**). Ecdysteroids affect *Drosophila* ovarian stem cell niche formation and early germline differentiation. ***EMBO J*** *30*, 1549-1562.

34. Kucherenko, M.M., Marrone, A.K., Rishko, V.M., Magliarelli H., and Shcherbata, H.R. (**2011**). Stress and muscular dystrophy: a genetic screen for dystroglycan and dystrophin interactors in *Drosophila* identifies cellular stress response components. ***Dev Biol*** *352*, 228-242.

35. Marrone, A.K., Kucherenko, M.M., Wiek, R., Gopfert, M.C., and Shcherbata, H.R. (**2011**). Hyperthermic seizures and aberrant cellular homeostasis in *Drosophila* dystrophic muscles. ***Scientific Reports*** *1(47)*.

36. Marrone, A.K., Kucherenko, M.M., Rishko, V.M., and Shcherbata, H.R. (**2011**). New Dystrophin/Dystroglycan interactors control neuron behavior in *Drosophila* eye. ***BMC Neurosci*** *12*, 93.

37. Kucherenko, M.M., Marrone, A.K., Rishko, V.M., Yatsenko, A.S., Klepzig, A., and Shcherbata, H.R. (**2010**). Paraffin-embedded and frozen sections of *Drosophila* adult muscles. ***J Vis Exp***.

38. Yu, J.Y., Reynolds, S.H., Hatfield, S.D., Shcherbata, H.R., Fischer, K.A., Ward, E.J., Long, D., Ding, Y., and Ruohola-Baker, H. (**2009**). Dicer-1-dependent Dacapo suppression acts downstream of Insulin receptor in regulating cell division of *Drosophila* germline stem cells. ***Development*** *136*, 1497-1507.

39. Yatsenko, A.S., Kucherenko, M.M., Pantoja, M., Fischer, K.A., Madeoy, J., Deng, W.M., Schneider, M., Baumgartner, S., Akey, J., *Shcherbata, H.R., *Ruohola-Baker H. (**2009**). The conserved WW-domain binding sites in Dystroglycan C-terminus are essential but partially redundant for Dystroglycan function. ***BMC Dev Biol*** *9*, 18. *-author for correspondence

40. Qi, J., Yu, J.Y., Shcherbata, H.R., Mathieu, J., Wang, A.J., Seal, S., Zhou, W., Stadler, B.M., Bourgin, D., Wang, L.*, et al*. (**2009**). microRNAs regulate human embryonic stem cell division. ***Cell Cycle*** *8*, 3729-3741.

41. Kucherenko, M.M., Pantoja, M., Yatsenko, A.S., Shcherbata, H.R., Fischer, K.A., Maksymiv, D.V., Chernyk, Y.I., and Ruohola-Baker, H. (**2008**). Genetic modifier screens reveal new components that interact with the *Drosophila* dystroglycan-dystrophin complex. ***PLoS One*** *3*, e2418.

42. Yatsenko, A.S., Gray, E.E., Shcherbata, H.R., Patterson, L.B., Sood, V.D., Kucherenko, M.M., Baker, D., and Ruohola-Baker, H. (**2007**). A putative Src homology 3 domain binding motif but not the C-terminal dystrophin WW domain binding motif is required for dystroglycan function in cellular polarity in *Drosophila*. ***J Biol Chem*** *282*, 15159-15169.

43. Shcherbata, H.R., Yatsenko, A.S., Patterson, L., Sood, V.D., Nudel, U., Yaffe, D., Baker, D., and Ruohola-Baker, H. (**2007**). Dissecting muscle and neuronal disorders in a *Drosophila* model of muscular dystrophy. ***EMBO J*** *26*, 481-493.

44. Shcherbata, H.R., Ward, E.J., Fischer, K.A., Yu, J.Y., Reynolds, S.H., Chen, C.H., Xu, P., Hay, B.A., and Ruohola-Baker, H. (**2007**). Stage-specific differences in the requirements for germline stem cell maintenance in the *Drosophila* ovary. ***Cell Stem Cell*** *1*, 698-709.

45. Ward, E.J., Shcherbata, H.R., Reynolds, S.H., Fischer, K.A., Hatfield, S.D., and Ruohola-Baker, H. (**2006**). Stem cells signal to the niche through the Notch pathway in the *Drosophila* ovary. ***Current Biology*** *16*, 2352-2358.

46. *Hatfield[#], S.D., Shcherbata[#], H.R., Fischer, K.A., Nakahara, K., Carthew, R.W., and Ruohola-Baker, H. (**2005**). Stem cell division is regulated by the microRNA pathway. ***Nature*** *435*, 974-978.

[#]-equal contribution

47. Shcherbata, H.R., Althauser, C., Findley, S.D., and Ruohola-Baker, H. (**2004**). The mitotic-to-endocycle switch in *Drosophila* follicle cells is executed by Notch-dependent regulation of G1/S, G2/M and M/G1 cell-cycle transitions. ***Development*** *131*, 3169-3181.

48. Shcherbata, G.R., Matiitsiv, N.P., Chernik Ia, I., and Maksimiv, D.V. (**2004**). [Chemically induced *Drosophila* melanogaster mutants with changes in brain structure]. ***Genetika*** *40*, 1280-1285.

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