

## VDRG publications 2025 (total 420 + 1 patent application)

### [RNAi-based screen for pigmentation in \*Drosophila melanogaster\* reveals regulators of brain dopamine and sleep.](#)

Deal SL, Bei D, Gibson SB, Delgado-Seo H, Fujita Y, Wilwayco K, Seto ES, Sehgal A, Yamamoto S. *iScience*. 2025 Dec 11;29(1):114388. doi: 10.1016/j.isci.2025.114388. eCollection 2026 Jan 16. PMID: 41561374

### [Rewiring an olfactory circuit by altering cell-surface combinatorial code.](#)

Lyu C, Li Z, Xu C, Kalai J, Luo L. *Nature*. 2026 Jan;649(8097):677-684. doi: 10.1038/s41586-025-09769-3. Epub 2025 Nov 19. PMID: 41261128

### [Structural basis of lipid transfer by a bridge-like lipid-transfer protein.](#)

Kang Y, Lehmann KS, Long H, Jefferson A, Purice M, Freeman M, Clark S. *Nature*. 2025 Jun;642(8066):242-249. doi: 10.1038/s41586-025-08918-y. Epub 2025 Apr 23. PMID: 40269155

### [The P-loop NTPase RUVBL2 is a conserved clock component across eukaryotes.](#)

Liao M, Liu Y, Xu Z, Fang M, Yu Z, Cui Y, Sun Z, Huo R, Yang J, Huang F, Liu M, Zhou Q, Song X, Han H, Chen S, Xu X, Qin X, He Q, Ju D, Wang T, Thakkar N, Hardin PE, Golden SS, Zhang EE. *Nature*. 2025 Jun;642(8066):165-173. doi: 10.1038/s41586-025-08797-3. Epub 2025 Mar 26. PMID: 40140583

### [A nociceptor-specific RNAi screen in \*Drosophila\* larvae identifies RNA-binding proteins that regulate thermal nociception.](#)

Dyson A, Gajjar G, Hoffman KC, Lewis D, Palega S, Rangel Silva E, Auwn J, Bellemer A. *PeerJ*. 2025 Jan 21;13:e18857. doi: 10.7717/peerj.18857. eCollection 2025. PMID: 39866556

### [A JAK/STAT-Pdk1-S6K axis bypasses systemic growth restrictions to promote regeneration.](#)

Vijayakumar Maya A, Neuhaus L, Nogay L, Singh A, Heckmann L, Grass I, Büscher J, Kierdorf K, Classen AK. *Nat Commun*. 2025 Dec 6;16(1):10944. doi: 10.1038/s41467-025-66995-z. PMID: 41353199

### [Perturbation of multiprotein complexes in skeletal muscle induces protective proteases in the CNS that degrade pathogenic proteins.](#)

Rai M, Baddeley HJE, Chuang CL, Platt A, Curley M, Finkelstein D, Demontis F. *NP J Aging*. 2025 Nov 27;11(1):97. doi: 10.1038/s41514-025-00288-z. PMID: 41309669

### [Glia-mediated gut-brain cytokine signaling couples sleep to intestinal inflammatory responses induced by oxidative stress.](#)

Malita A, Skakkebaek AH, Kubrak O, Chen X, Koyama T, Connolly EC, Ahrentloev N, Andersen DS, Texada MJ, Halberg K, Rewitz K. *Elife*. 2025 Sep 9;13:RP99999. doi: 10.7554/eLife.99999. PMID: 40924804

### [Coupling of mitochondrial state with active zone plasticity in early brain aging.](#)

Fei L, Liang Y, Kintscher U, Sigrist SJ. *Redox Biol*. 2025 Feb;79:103454. doi: 10.1016/j.redox.2024.103454. Epub 2024 Dec 3. PMID: 39642596

### [A switch to non-proliferative growth sustains \*Drosophila\* wing development during the early pupal stage.](#)

El Marzkioui K, Gaugué I, De Giorgio E, Anguille C, Léopold P, Boulan L. *Curr Biol*. 2025 Aug 18;35(16):4043-4049.e3. doi: 10.1016/j.cub.2025.07.020. Epub 2025 Aug 1. PMID: 40752488

[Exploring mitophagy levels in \*Drosophila\* Malpighian tubules unveils the pivotal role of mitophagy in kidney function and diabetic kidney disease.](#)

Lee KM, Kim J, Jung HL, Kim YY, Lee J, Lee YJ, Yoo E, Lee HS, Yun J. *Exp Mol Med*. 2025 Oct;57(10):2364-2375. doi: 10.1038/s12276-025-01558-2. Epub 2025 Oct 23. PMID: 41131336

[Inhibition of scheggia/SLC25A1 citrate transporter alleviates XPD deficits.](#)

Cho DG, Jung J, Hwang JH, Choi KW. *Sci Rep*. 2025 Dec 1;15(1):42891. doi: 10.1038/s41598-025-26976-0. PMID: 41326433

[Stem cell-specific NF- \$\kappa\$ B is required for stem cell survival and epithelial regeneration upon intestinal damage.](#)

Joly A, Ferguson M, Shin M, Foley E. *Biol Open*. 2025 Sep 15;14(9):bio062025. doi: 10.1242/bio.062025. Epub 2025 Sep 18. PMID: 40964961

[Female membrane proteins regulate postmating ovulation in \*Drosophila melanogaster\* by ovulin-dependent and -independent pathways.](#)

Yang M, White MA, Findlay GD, Vignogna RC, Apger-McGlaughon J, Clark NL, Choi JY, Fromme JC, Wolfner MF. *Proc Natl Acad Sci U S A*. 2025 Sep 16;122(37):e2508783122. doi: 10.1073/pnas.2508783122. Epub 2025 Sep 8. PMID: 40920921

[Peripheral glia and neurons jointly regulate activity-induced synaptic remodeling at the \*Drosophila\* neuromuscular junction.](#)

Chang YC, Peng YJ, Lee JY, Wen A, Chang KT. *Elife*. 2025 Nov 21;14:RP104126. doi: 10.7554/eLife.104126. PMID: 41269754

[4EHP and NELF-E regulate physiological ATF4 induction and proteostasis in disease models of \*Drosophila\*.](#)

Walsh K, Katow H, Junn H, Vasudevan D, Dieterich C, Ryoo HD. *Nat Commun*. 2025 Dec 23;17(1):626. doi: 10.1038/s41467-025-67357-5. PMID: 41436469

[A deficiency screen of the X chromosome for Rap1 GTPase dominant interacting genes in \*Drosophila\* border cell migration.](#)

Messer CL, Burghardt E, McDonald JA. *G3 (Bethesda)*. 2025 May 8;15(5):jkaf040. doi: 10.1093/g3journal/jkaf040. PMID: 39993182

[Dissecting metabolic regulation of behaviors and physiology during aging in \*Drosophila\*.](#)

Pasam ES, Madamanchi K, Melkani GC. *Biogerontology*. 2025 Aug 19;26(5):165. doi: 10.1007/s10522-025-10306-y. PMID: 40828329

[Mammalian heat shock protein A4 family ortholog Hsc70Cb is required for two phases of spermatogenesis in \*D. melanogaster\*.](#)

Houston BJ, Nguyen J, Burke R, Nogueira Alves A, Hime GR, O'Bryan MK. *Reproduction*. 2025 Mar 7;169(4):e240458. doi: 10.1530/REP-24-0458. Print 2025 Apr 1. PMID: 39991973

[Trithorax regulates long-term memory in \*Drosophila\* through epigenetic maintenance of mushroom body metabolic state and translation capacity.](#)

Raun N, Jones SG, Kerr O, Keung C, Butler EF, Alka K, Krupski JD, Reid-Taylor RA, Ibrahim V, Williams M, Top D, Kramer JM. *PLoS Biol*. 2025 Jan 27;23(1):e3003004. doi: 10.1371/journal.pbio.3003004. eCollection 2025 Jan. PMID: 39869640

[The circadian genes are required in DAL neurons for \*Drosophila\* long-term memory formation.](#)

Yin JCP, Cui E, Johnstone PS, Top D, Boekhoff-Falk G, Zhou H. *Front Neurosci.* 2025 Jun 30;19:1623251. doi: 10.3389/fnins.2025.1623251. eCollection 2025. PMID: 40661846

[A binary-distributed effector modulates fungal host preference for drosophilids by targeting a lineage-specific immune factor.](#)

Luo Y, Sheng X, Wei D, Song S, Chen C, Wu H, Shang J, Wang C. *Proc Natl Acad Sci U S A.* 2025 Nov 18;122(46):e2518127122. doi: 10.1073/pnas.2518127122. Epub 2025 Nov 13. PMID: 41231943

[Numb provides a fail-safe mechanism for intestinal stem cell self-renewal in adult \*Drosophila\* midgut.](#)

Li M, Tian A, Jiang J. *Elife.* 2025 Apr 9;14:RP104723. doi: 10.7554/eLife.104723. PMID: 40202131

[Polyclonality and metabolic heterogeneity in a colorectal tumor model.](#)

Delamotte P, Poidevin M, Jaszczyszyn Y, Le Rouzic A, Montagne J. *iScience.* 2025 Jul 10;28(8):113090. doi: 10.1016/j.isci.2025.113090. eCollection 2025 Aug 15. PMID: 40822358

[A carnitine transporter at the blood-brain barrier modulates sleep via glial lipid metabolism in \*Drosophila\*.](#)

Avila A, Lewandowski AS, Li Y, Gui J, Lee KA, Yang Z, Kim M, Lyles JT, Man K, Sehgal A, Chandler JD, Zhang SL. *Proc Natl Acad Sci U S A.* 2025 Jan 28;122(4):e2421178122. doi: 10.1073/pnas.2421178122. Epub 2025 Jan 23. PMID: 39847335

[Increased BNIP3-mediated mitophagy attenuates GDAP1 loss of function - implications for Charcot-Marie-Tooth disease 4A.](#)

Zhang L, Pouya A, Kopetzky J, Bitar S, Wolf C, Bello FD, Gomez-Zepeda D, Tenzer S, Methner A. *Neurobiol Dis.* 2025 Sep;213:107019. doi: 10.1016/j.nbd.2025.107019. Epub 2025 Jul 4. PMID: 40618856

[β-asarone relieves Parkinson's disease through reducing intracellular Ca<sup>2+</sup> in PINK1 mutant \*Drosophila melanogaster\*.](#)

Yin L, Yuan X, Yu J, Ren X, Zhang H, Ye Y, Wang Z, Chen X. *Eur J Pharmacol.* 2025 Jan 15;987:177155. doi: 10.1016/j.ejphar.2024.177155. Epub 2024 Nov 30. PMID: 39622404

[EyaHOST, a modular genetic system for investigation of intercellular and tumor-host interactions in \*Drosophila melanogaster\*.](#)

Teles-Reis J, Jain A, Liu D, Khezri R, Antunes MG, Micheli S, Gomez AA, Dillard C, Rusten TE. *Cell Rep Methods.* 2025 Nov 17;5(11):101220. doi: 10.1016/j.crmeth.2025.101220. Epub 2025 Nov 4. PMID: 41192417

[Signals from the niche promote distinct modes of translation initiation to control stem cell differentiation and renewal in the \*Drosophila\* testis.](#)

Wang R, Roiuk M, Storer F, Teleman AA, Amoyel M. *PLoS Biol.* 2025 Mar 11;23(3):e3003049. doi: 10.1371/journal.pbio.3003049. eCollection 2025 Mar. PMID: 40067813

[Identifying links between cardiovascular disease and insomnia by modeling genes from a pleiotropic locus.](#)

Abou Daya F, Mandigo T, Ober L, Patel D, Maher M, Math S, Tchio C, Walker JA, Saxena R, Melkani GC. *Dis Model Mech.* 2025 May 1;18(5):dmm052139. doi: 10.1242/dmm.052139. Epub 2025 May 6. PMID: 40176577

[Role of \*AdamTS-B\* in \*Drosophila\* wing vein formation.](#)

Schulze J, Töpfer U. *MicroPubl Biol.* 2025 Jun 26;2025:10.17912/micropub.biology.001680. doi: 10.17912/micropub.biology.001680. eCollection 2025. PMID: 40657355

[Examining the potential involvement of NONO in TDP-43 proteinopathy in \*Drosophila\*.](#)

Koch R, Nagoshi E. *Eur J Neurosci.* 2025 Jan;61(1):e16632. doi: 10.1111/ejn.16632. Epub 2024 Dec 17. PMID: 39690447

[Segment-specific axon guidance by Wnt/Fz signaling diversifies motor commands in \*Drosophila\* larvae.](#)

Takagi S, Takano S, Kubo T, Hashimoto Y, Morise S, Zeng X, Nose A. *Elife.* 2025 Sep 25;13:RP98624. doi: 10.7554/eLife.98624. PMID: 40996811

[CRIF counteracts oncogenic Ras and regulates heterochromatin.](#)

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[Lack of single amino acids transcriptionally tunes sensory systems to enhance microbiota intake.](#)

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[Slirp2 modulates oogenesis via regulating mitochondrial protein translation.](#)

Cao J, Zhang J, Wu Z, Luan W, Zhou Y, Huang H, Li L, Hu W. *J Mol Cell Biol.* 2025 Dec 2:mjaf047. doi: 10.1093/jmcb/mjaf047. Online ahead of print. PMID: 41328869

[Early-life DEHP exposure disrupts adult male \*Drosophila\* sleep homeostasis via Kyat-KYNA-NMDAR pathway in the brain.](#)

Cai X, Wu S, Weng M, Chu J, Yin K, Hu J, Chen X, Hou F, Xu D, Wei T, Zhao L. *J Hazard Mater.* 2025 Sep 5;495:139146. doi: 10.1016/j.jhazmat.2025.139146. Epub 2025 Jul 4. PMID: 40628212

[The Role of the SR Protein 9G8 in the \*Drosophila\* Intestine to Regulate Lipid Metabolism](#)

Voskoboinikov R, DiAngelo JR.

*Lipidology*2025, 2(1), 1;https://doi.org/10.3390/lipidology2010001

[ILP8 serves as a mature follicle sensor to prevent excessive accumulation of mature follicles in \*Drosophila\* ovaries and oocyte aging.](#)

Oramas R, Yacuk K, Cho SE, Aloisio NR, Sun J. *Development.* 2025 Nov 15;152(22):dev204827. doi: 10.1242/dev.204827. Epub 2025 Nov 24. PMID: 41169264

[Heterozygous loss of SRRM1 may be associated with neurodevelopmental phenotypes and anomalies in cell growth and neurite morphology.](#)

Altay MF, Gregor A, Braun D, Rieubland C, Gautschi M, Perret Hoigné E, Schiller R, Keren B, Afenjar A; Undiagnosed Diseases Network; Martinez-Agosto JA, Rosenfeld JA, Zweier C. *Eur J Hum Genet.* 2026 Feb;34(2):201-208. doi: 10.1038/s41431-025-01966-y. Epub 2025 Oct 27. PMID: 41145827

[Cholesterol taste avoidance in \*Drosophila melanogaster\*.](#)

Nhuchhen Pradhan R, Montell C, Lee Y. *Elife.* 2025 Apr 17;14:RP106256. doi: 10.7554/eLife.106256. PMID: 40244888

[Mac-/Lactosylceramide regulates intestinal homeostasis and secretory cell fate commitment by facilitating Notch signaling.](#)

Tang K, Li X, Hu J, Shi J, Li Y, Chen Y, Yin C, Wang F, Xi R. *Elife*. 2025 Dec 23;14:RP106184. doi: 10.7554/eLife.106184. PMID: 41431871

[Loss of the NF- \$\kappa\$ B negative regulator Pirk in \*Drosophila\* links brain and gut immunity to neurodegeneration.](#)

Arora S, Critchley G, Dekmak AS, Miesenböck G, Kempf A, Ligoxygakis P. *Brain Commun*. 2025 Apr 15;7(2):fcf144. doi: 10.1093/braincomms/fcaf144. eCollection 2025. PMID: 40599166

[Multiple mechanisms of action for an extremely painful venom.](#)

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[Xgr is involved in body size control in \*Drosophila\* through promoting glucose uptake in the Malpighian tubules.](#)

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[Compressive stress drives morphogenetic apoptosis through lateral tension and Piezo.](#)

Merle T, Cazales M, Mangeat T, Bouzignac R, Proag A, Ronsin B, Rouvière C, Pitot E, Suzanne M. *Cell Rep*. 2025 Sep 23;44(9):116161. doi: 10.1016/j.celrep.2025.116161. Epub 2025 Aug 19. PMID: 40833850

[Redox regulation of memory formation by Rrp1 in \*Drosophila\*.](#)

Hsu CT, Chen CC, Hung YL, Yang YT, Chiu YH, Fong SS, Yang JH, Wu ZW, Liou JW, Lin HW, Feng KL, Yang JL, Chiang AS. *Proc Natl Acad Sci U S A*. 2025 Dec 2;122(48):e2507018122. doi: 10.1073/pnas.2507018122. Epub 2025 Nov 25. PMID: 41289397

[Microproteins Simba1 and Simba2 activate Wingless signaling during the reactivation of neural stem cells in \*Drosophila\*.](#)

Lin J, Deng Q, Gao Y, Tan YS, Zhong Z, Tan LKA, Tan BOP, Virshup DM, Bosch JA, Perrimon N, Wang H. *Nat Commun*. 2025 Nov 26;16(1):11651. doi: 10.1038/s41467-025-66727-3. PMID: 41298547

[Macrophage metabolic reprogramming during dietary stress influences adult body size in \*Drosophila\*.](#)

Mahanta A, Najar SA, Hariharan N, Bhowmick A, Rizvi SI, Goyal M, Parupalli P, Subramanian R, Giangrande A, Palakodeti D, Mukherjee T. *EMBO Rep*. 2025 Nov;26(22):5397-5430. doi: 10.1038/s44319-025-00574-7. Epub 2025 Sep 9. PMID: 40925960

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[A \*Drosophila\* screen of schizophrenia genes highlights neural and glial MMPs in neuronal remodeling.](#)

Keret S, Meltzer H, Marmor-Kollet N, Schuldiner O. Life Sci Alliance. 2025 Oct 7;8(12):e202503504. doi: 10.26508/lsa.202503504. Print 2025 Dec. PMID: 41057228

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[Nucleation feedback can drive establishment and maintenance of biased microtubule polarity in neurites.](#)

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[The mechanical state of pre-tumoral epithelia controls subsequent \*Drosophila\* tumor aggressiveness.](#)

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