

Publikationsliste Prof. Gunter Reuter (Stand: Januar 2021)

- Reuter, G., Wolff, I. (1981) Isolation of dominant suppressor mutations for position - effect variegation. *Mol. Gen. Genet.* 182, 516-519.
- Reuter, G., Werner, W., Hoffmann, H.-J. (1982) Mutants affecting position-effect heterochromatinization in *Drosophila melanogaster*. *Chromosoma* 85, 539-551.
- Reuter, G., Dorn, R., Hoffmann, H.-J. (1982) Butyrate sensitive suppressor of position-effect variegation mutations in *Drosophila melanogaster*. *Mol. Gen. Genet.* 188, 480-485.
- Reuter, G., Hoffmann, H.-J., Wolff, I. (1983) Genetic study of position-effect variegation in *Drosophila melanogaster*: *In(1)wm⁴h* as a standard rearrangement for the isolation and characterization of suppressor and enhancer mutants. *Biol. Zbl.* 102, 281-298.
- Reuter, G., Szidonya, J. (1983) Cytogenetic analysis of variegation suppressors and a dominant temperature sensitive lethal in region 23-26 of 2L in *Drosophila melanogaster*. *Chromosoma* 88, 277-285.
- Reuter, G., Wolff, I., Friede, B. (1985) Functional properties of the heterochromatic sequences inducing *wm⁴* position-effect variegation in *Drosophila melanogaster*. *Chromosoma* 93, 132-139.
- Reuter, G., Dorn, R., Wustmann, G., Friede, B., Rauh, G. (1986) Third chromosome suppressor of position-effect variegation loci in *Drosophila melanogaster*. *Mol. Gen. Genet.* 202, 481-487.
- Dorn, R., Heymann, S., Lindigkeit, R., Reuter, G. (1986) Suppressor mutation of position-effect variegation affecting chromatin properties. *Chromosoma* 93, 398-403.
- Reuter, G., Szabad, J. (1987) Disc autonomy of suppression and enhancement of position-effect variegation. *Dros. Info. Serv.* 66, 119.
- Reuter, G., Gausz, J., Gyurkovics, H., Friede, B., Bang, R., Spierer, A., Hall, L.M.C., Spierer, P. (1987) Modifiers of position-effect variegation in the region from 86C to 88B of the *Drosophila melanogaster* third chromosome. *Mol. Gen. Genet.* 210, 429-436.
- Szabad, J., Reuter, G., Schröder, M.B. (1988) The effect of two mutations connected with chromatin functions on female germ-line cells of *Drosophila*. *Mol. Gen. Genet.* 211, 56-62.
- Szidonya, J., Reuter, G. (1988) Cytogenetic analysis of the echinoid(*ed*) , dumpy (*dp*) and clot (*cl*) region in *Drosophila melanogaster*. *Genet. Res.*, Cambridge 51, 197-208.
- Szidonya, J., Reuter, G. (1988) Cytogenetic analysis of the 24D4-25F2 region of the *Drosophila melanogaster* 2L chromosome. *Dros. Info. Serf.* 67, 76-78.
- Wustmann, G., Szidonya, J., Taubert, H., Reuter, G. (1989) The genetics of position-effect modifying loci in *Drosophila melanogaster*. *Mol. Gen. Genet.* 217, 520-527.

- Reuter, G., Giarre, N., Farah; J., Gausz, J., Spierer, A., Spierer, P. (1990) Dependence of position-effect variegation in *Drosophila* on dose of a gene encoding an unusual zinc-finger protein. *Nature* 344, 219-223.
- Reuter, G., Spierer, P. (1992) Position-effect variegation and chromatin proteins. *BioEssays* 14, 605-612.
- Eissenberg, J. C., Morris, G. D., Reuter, G., Hartnett, T. (1992) The hetero-chromatin-associated protein HP-1 is an essential protein in *Drosophila* with dosage-dependent effects on position-effect variegation. *Genetics* 131, 345-352.
- Dorn, R., Morawietz, H., Reuter, G., Saumweber, H. (1992). Identification of an essential *Drosophila* gene that is homologous to the translation initiation factor eIF-4A of yeast and mouse. *Mol. Gen. Genet.* 237, 233-240.
- Reuter, G., Hoffmann, G., Dorn, R., Saumweber, H. (1993). Construction and characterization of a TM3 balancer carrying $P[(ry^+)\Delta 2-3]$ as a stable transposase source. *Dros. Info. Serv.* 72, 78-79.
- Dorn, R., Szidonya, J., Korge, G., Sehnert, M., Taubert, H., Archoukieh, I., Tschiersch, B., Morawietz, H., Wustmann, G., Hoffmann, G., Reuter, G. (1993). P Transposon-induced dominant enhancer mutations of position-effect variegation in *Drosophila melanogaster*. *Genetics* 133, 279-290.
- Dorn, R., Krauss, V., Reuter, G., Saumweber, H. (1993). The enhancer of position-effect variegation of *Drosophila*, E(var)3-93D, codes for a chromatin protein containing a conserved domain to several transcription regulators. *Proc. Natl. Acad. Sci. USA*, 90, 11376-11380.
- Baksa, K., Morawietz, H., Dombradi, V., Axton, M., Taubert, H., Szabo, G., Török, I., Gyurkovics, H., Szőör, B., Glover, D., Reuter, G., Gausz, J. (1993). Mutations in the phosphatase 1 gene at 87B can differentially affect suppression of position-effect variegation and mitosis in *Drosophila melanogaster*. *Genetics* 135, 117-125.
- Tschiersch, B., Hofmann, A., Krauss, V., Dorn, R., Korge, G., Reuter, G. (1994). The protein encoded by the *Drosophila* position effect variegation suppressor gene Su(var)3-9 combines domains of antagonistic regulators of homeotic gene complexes. *EMBO J.* 13, 3822-3831.
- Farkas, G., Gausz, J., Galloni, M., Reuter, G., Gyurkovics, H., Karch, F. (1994). The Trithorax-like gene encodes the *Drosophila* GAGA factor. *Nature* 371, 806-808.
- Seum, C., Spierer, A., Pauli, D., Szidonya, J., Reuter, G., Spierer, P. (1996). Position-effect variegation in *Drosophila* depends on dose of the gene encoding the E2F transcriptional activator and cell cycle regulator. *Development* 122: 1949-1956.
- DeRubertis, F., Kadosh, D., Henchoz, S., Pauli, D., Reuter, G., Struhl, K., Spierer, P. (1996). The histone deacetylase RPD3 counteracts genomic silencing in *Drosophila* and yeast. *Nature* 384, 589-591.
- Laible, G., Wolf, A., Dorn, R., Reuter, G., Nislow, C., Lebesorger, A., Popkin, D., Pillus, L., Jenuwein T., (1997). Mammalian homologs of Enhancer of zeste mediate

position-effect variegation in *Drosophila* and restore telomeric silencing in *S. cerevisiae*. *EMBO J.* 16, 3219-3232.

Jenuwein, T., Laible, G., Dorn, R., Reuter, G. (1998). SET domain proteins modulate chromatin domains in eu- and heterochromatin. *Cell. Mol. Life Science* 54, 80-93.

Fuchs, J., Kuhfittig, S., Reuter, G., Schubert, I. (1998) Chromosome painting in *Drosophila*. *Chromosome Research* 6, 335-336.

Aagaard, L., Laible, G., Selenko, P., Schmid, M., Dorn, R., Schotta, G., Kuhfittig, S., Wolf, A., Lebesorger, A., Singh, P. B., Reuter, G., Jenuwein, T. (1999). Functional mammalian homologues of the *Drosophila* PEV-modifier Su(var)3-9 encode centromere-associated proteins that complex with the heterochromatin component M31. *EMBO J.* 18, 1923-1938.

Rudolph, T., Lu, B., Westphal, T., Szidonya, J., Eissenberg, J., Reuter, G. (1999). New type of CyO and TM3 green balancers. *Dros. Info. Serv.* 72, 78-79

Schotta, G., Reuter, G. (2000). Controlled expression of tagged proteins in *Drosophila* using a new modular P-element vector system. *Mol. Gen. Genet.* 262, 916-920.

Büchner K, Roth P, Schotta G, Krauss V, Saumweber H, Reuter G, Dorn R (2000). Genetic and molecular complexity of the PEV modifier mod(mdg4)/E(var)3-93D in *Drosophila*. *Genetics* 155, 141-157.

Krauss, V., Reuter, G. (2000) Two genes become one: The genes encoding heterochromatin protein SU(VAR)3-9 and translation initiation factor subunit eIF-2 α are joined to a dicistronic unit in holometaboloic insects. *Genetics* 156, 1157-1167.

Kuhfittig, S., J. Szabad, G. Schotta, J. Hoffmann, E. Máthé, G. Reuter (2001) *pitkinD* a novel gain-of-function enhancer of position-effect variegation affects chromatin regulation during oogenesis and early embryogenesis in *Drosophila*. *Genetics* 157, 1227-1244.

Dorn, R., Reuter, G., A. Loewendorf (2001) Transgene analysis proves mRNA trans-splicing at the complex mod(mdg4) locus in *Drosophila*. *Proc. Natl. Acad. Sci. USA* 98, 9724-9729.

Baumbusch, L., Thorstensen, T., Krauss, V., Fischer, A., Naumann, K., Assalkhou, R., Schultz, I., Reuter, G., and Aalen, R. B. (2001) The *Arabidopsis thaliana* genome contains at least 29 active genes encoding SET domain proteins which can be assigned to four evolutionary conserved classes. *Nucl. Acid Res.* 29, 4319-4333.

Czermin, B., Schotta, G., Hülsmann, B. B., Brehm, A., Becker, P. B., Reuter, G. and Imhof, A. (2001) Physical and functional interaction of SU(VAR)3-9 and HDAC1 in *Drosophila*. *EMBO Rep.* 2, 915-919.

Westphal, T., G. Reuter (2002) Crossing over suppression by heterochromatin and the dominant recombinogenic effects of suppressor of position-effect variegation mutations in *Drosophila*. *Genetics* 160, 609-621.

- Schotta, G., Ebert, A., Krauss, V., Fischer, A., Hoffmann, J., Rea, S., Jenuwein, T., Dorn, R., Reuter, G. (2002) Central role of *Drosophila* SU(VAR)3-9 in histone H3-K9 methylation and heterochromatic gene silencing. *EMBO J.* 21, 1121-1131.
- Schotta, G., Ebert, A., Reuter, G. (2003) SU(VAR)3-9 a conserved key function in heterochromatic gene silencing. *Genetica* 117, 149-158.
- Schotta, G., Ebert, A., Dorn, R., Reuter, G. (2003) Position-effect variegation and the genetic dissection of chromatin regulation in *Drosophila*. *Sem. in Cell and Dev. Biol.* 14, 67-75.
- Ryder, E., Blows, F., Ashburner, M., Bautista-Llacer, R., Coulson, D., Drummond, J., Webster, J., Gubb, D., Gunton, N., Johnson, G., O'Kane, C., Huen, D., Baisch, H., Schulze, J., Kube, M., Kittlaus, K., Reuter, G., Maroy, P., Szidonya, J., Rasumson-Lestander, A., Ekström, K., Dickson, B., Hugentobler, C., Stocker, H., Hafen, E., Lepesant, J.A., Pflugfelder, G., Heisenberg, M., Mechler, B., Serras, F., Corominas, M., Roote, J., and Russell, S. (2004) The DrosDel collection: a set of P-element insertions for generating custom chromosomal aberrations in *Drosophila melanogaster*. *Genetics* 167, 797-813.
- Schotta, G., Lachner, M., Sarma, K., Ebert, A., Sengupta, R., Reuter, G., Reinberg, D., and Jenuwein, T. (2004) A silencing pathway to induce H3-K9 and H4-K20 trimethylation at constitutive heterochromatin. *Genes Dev.* 18, 1251-1262.
- Ebert, A., Schotta, G., Lein, S., Kubicek, S., Krauss, V., Jenuwein, T., Reuter, G. (2004) *Su(var)* genes regulate the balance between euchromatin and heterochromatin in *Drosophila*. *Genes Dev.* 18, 2973-2983.
- Gabler, M., Volkmar, M., Weinlich, S., Herbst, A., Doeberthien, P., Sklarss, S., Fanti, L., Pimpinelli, S., Kress, H., Reuter, G., Dorn, R. (2005) Trans-splicing of the *mod(mdg4)* complex locus is evolutionary conserved between the distantly related species *Drosophila melanogaster* and *Drosophila virilis*. *Genetics* 169, 723-736.
- Naumann, K., Fischer, A., Hofmann, I., Krauss, V., Phalke, S., Irmler, K., Hause, G., Aurich, A.-C., Dorn, R., Jenuwein, T., Reuter, G. (2005) Pivotal role of AtSUVH2 in heterochromatic histone methylation and gene silencing in *Arabidopsis*. *EMBO J.* 24, 1418-1429.
- Reuter, G., Fischer, A., Hofmann, I. (2005) Heterochromatin and the control of gene silencing in plants. *Ann. Plant Rev.* 19, 106-133. Blackwell Publishing Ltd.
- Seeger, K., Lein, S., Reuter, G., Berger, S. (2005) STD-measurements with SU(VAR)3-9 and S-adenosyl-L-methionine. *Biochemistry* 44, 6208-6213.
- Lein, S., Reuter, G. (2005) Heterochromatin und "Gene silencing". *Medizinische Genetik* 3, 254-259.
- Fischer, A., Hofmann, I., Naumann, K., Reuter, G. (2006) Heterochromatin proteins and the control of heterochromatic gene silencing in *Arabidopsis*. *J. Plant Physiol.* 163, 358-368.

- Elgin, S.C.R. and Reuter, G. (2006) Position effect variegation in *Drosophila*: A tool to investigate heterochromatin formation. In: Epigenetics, Ed. C. D. Allis, T. Jenuwein and D. Reinberg, Cold Spring Harbor Laboratory Press.
- Koryakov, D.E., Reuter, G., Patrizio, D., Zhimuliev, I. (2006) Heterochromatic proteins HP1, SU(VAR)3-9 and SUUR are distributed differently in chromosomes of germ-line and somatic cells of *Drosophila melanogaster*. Chromosoma, 115, 296-310.
- Ebert A, Lein S, Schotta G, Reuter G (2006) Histone modification and the control of heterochromatic gene silencing in *Drosophila*. Chromosome Research 14, 377-392.
- Thorstensen, T., Fischer, A., Sandvik, S.V., Johnson, S.S., Grini, P., Reuter, G., Aalen, R. (2006). The *Arabidopsis* SUVR4 protein is a nucleolar histone methyltransferase with preference for monomethylated H3K9. Nucl. Acid Res. 34, 5461-5470.
- Rudolph, T., Yonezawa, M., Lein, S., Heidrich, K., Kubicek, S., Schäfer, C., Phalke, S., Walther, M., Schmidt, A., Jenuwein, T., Reuter, G. (2007). Heterochromatin formation in *Drosophila* is initiated through active removal of H3K4 methylation by the LSD1 homolog SU(VAR)3-3. Mol. Cell 26, 103-115.
- Ryder, E., Ashburner, M., Bautista-Llacer R., Drummond, J., Webster, J., Gubb, D., Johnson, G., Morley, T., Sang Chan, Y., Blows, F., Coulson, D., Reuter, G. Baisch, H., Apelt, C., Kauk, A., Rudolph, T., Kube, M., Klimm, M., Nickel, C., Szidonya, J., Maróy, P., Pal, M., Rasmuson-Lestander, Å., Ekström, K., Stocker, H., Hugentobler, C., Hafen, E., Pflugfelder, G., Dorner, C., Mechler, B., Schenkel, H., Marhold, J., Serras, F., Corominas, M., Punset, A., Roote, J., Russell, S. (2007). The DrosDel Deletion Set: A *Drosophila* Genome-Wide Chromosomal Deficiency Resource. *Genetics* **167**: 797-813.
- Marygold, S.J., Roote, J., Reuter, G., Lambertsson, A., Ashburner, M., Millburn, G., Harrison, P., Yu, Z., Kenmochi, N., Kaufman, T.C., Leavers, S.J., Cook, K.R. (2007). The Ribosomal Protein Genes and Minute Loci of *Drosophila melanogaster*. *Genome Biology* 8: R216.1-26.
- Schilling S, Lindner C, Koch B, Wermann M, Rahfeld J-U, von Bohlen A, Rudolph T, Reuter G, Demuth H-U (2007) Isolation and characterization of glutaminyl cyclases from *Drosophila*: Evidence for enzyme forms with different subcellular localization. *Biochemistry* **46**: 10921-10930.
- Rudolph T, Reuter G (2007) Mutantenanalyse epigenetischer Kontrollprozesse. *Biospektrum* **13**, 714-717.
- Jurkowski TP, Meusburger M, Phalke S, Maximov V, Helm M, Nellen W, Reuter G, Jeltsch A (2008) Human DNMT2 methylates tRNAAsp molecules using a DNA-methyltransferase like catalytic mechanism. *RNA* **14**, 1663-1670.
- Hoffmann, A., Funkner, A., Juhnke, S., Walther, M., Schierhorn, A., Weininger, U., Balbach, J., Reuter, G., Stubbs, M.T. (2008) Biophysical characterization of refolded *Drosophila* Spätzle, a cystine knot protein, reveals isoforms with distinct properties. *J. Biol. Chem.* 283, 32598-32609.
- Schilling, S., Zeitschel, U., Hoffmann, T., Heiser, U., Francke, M., Kehlen, A., Holzer, M., Hutter-Paier, B., Prokesch, M., Manfred Windisch, M., Lindner, C., Rudolph, T.,

- Reuter, G., Cynis, H., Montag, D., Demuth, H.-U., Roßner, R. (2008) Inhibition of glutaminyl cyclase – a novel therapeutic concept for the causative treatment of Alzheimer's disease (AD). *Nature Medicine* 14, 1106-1111.
- Reuter, G., Lein, S. (2009) Coordinated demethylation and methylation of histones controls heterochromatin formation and gene silencing in *Drosophila*. Review, in: Chromosomes to Genome, IK International Publishing House Pvt. Ltd., New Delhi, pp. 41-59.
- Ay, N., Irmler, K., Fischer, A., Uhlemann, R., Reuter, G., Humbeck, K. (2009) Epigenetic programming via H3K4 methylation at WRKY53 controls leaf senescence and is impaired by ectopic H3K27 methylation. *Plant J.* 58, 333-346.
- Demidov, D., Hesse, S., Tewes, A., Rutten, T., Fuchs, J., Karimi, R., Vlasenko, L., Lein, S., Fischer, A., Reuter, G., Houben, A. (2009) Aurora 1 phosphorylation activity on histone H3 and its cross talk with other post-translational histone modifications in *Arabidopsis*. *Plant J.* 59, 221-230.
- Eissenberg, J.C., Reuter, G. (2009) Cellular mechanism for targeting heterochromatin formation in *Drosophila*. *Int. Rev. Cell. Mol. Biol.* 273, 1-47.
- Hiller M, Findeiß S, Lein S, Marz M, Nickel C, Rose D, Schulz C, Backofen R, Prohaska S, Reuter G, Stadler PF (2009) Conserved introns reveal novel transcripts in *Drosophila melanogaster*. *Genome Res.* 19, 1289-1300.
- Reuter, G., Cavalli, G. (2009) Epigenetics and the control of multicellularity: Chromatin at the nexus of cell division and differentiation. *EMBO Rep.* 10, 25-29.
- Phalke, S., Nickel, O., Walluscheck, D., Hortig, F., Onorati, M.C., Reuter, G. (2009) Epigenetic control of retrotransposon silencing and telomere integrity in somatic cells of *Drosophila* depends on the cytosine 5 methyltransferase DNMT2. *Nature Genet.* 41, 696-702.
- Fodor, D.B., Shukeir, N., Reuter, G., Jenuwein, T. (2010) Mammalian *Su(var)* genes in chromatin control. *Ann. Rev. Cell Dev. Biol.* 26, 471-501.
- Korykaov DE, Walther M, Ebert A, Lein S, Zhimulev IF, Reuter G (2011) The SUUR protein is involved in binding of SU(VAR)3-9 and methylation of H3K9 and H3K27 in chromosomes of *Drosophila melanogaster*. *Chromosome Res.* 19, 235-249.
- Krauss V, Reuter, G (2011) DNA methylation in *Drosophila* – A critical evaluation. *Prog. Mol. Biol. Transl. Sci.* 101, 177-91.
- Veiseth, SV, Rahman, MA, Yap, KL, Fischer, A, Egge-Jacobsen, W, Reuter, G, Zhou, M-M, Aalen, RB, Thorstensen, T. (2011) The SUVR4 Histone Lysine Methyltransferase Binds Ubiquitin and Converts H3K9me1 to H3K9me3 on Transposon Chromatin in *Arabidopsis*. *PLoS Genet.* 7, e1001325.
- Bulic A, Postberg J, Fischer A, Jönsson F, Reuter G, Lipps HJ (2013) A permissive chromatin structure is adopted prior to site-specific DNA demethylation of developmentally expressed genes involved in macronuclear differentiation. *Epigenetics Chromatin* 6(1):5 doi: 10.1186/1756-8935-6-5.
- Elgin SCR, Reuter G (2013) Position-effect variegation, heterochromatin formation, and gene silencing in *Drosophila*. *Cold Spring Harb. Perspect. Biol.* doi: 10.1101/cshperspect.a017780.

- Rudolph T, Beuch S, and Reuter G (2013). Lysine-specific histone demethylase LSD1 and the dynamic control of chromatin. *Biol. Chem.* 394: 1019-1028.
- Wiemann P, Sieber CMK, von Bargen KW, Studt L, Niehaus E-M, Espino JJ, Huß K, Michielse CB, Albermann S, Wagner D, Bergner SV, Connolly LR, Fischer A, Reuter G, Kleigrewe K, Bald T, Wingfield BD, Ophir R, Freeman S, Hippler M, Smith KM, Brown DW, Proctor RH, Münsterkötter M, Freitag M, Humpf H-U, Güldener U, Bettina Tudzynski B (2013) Deciphering the Cryptic Genome: Genome-wide Analyses of the Rice Pathogen *Fusarium fujikuroi* Reveal Complex Regulation of Secondary Metabolism and Novel Metabolites. *PLoS Pathog* 9(6): e1003475. doi:10.1371/journal.ppat.1003475
- Ay N, Raum U, Balazadeh S, Seidensticker T, Fischer A, Reuter G, Humbeck K (2014). Regulatory factors of leaf senescence are affected in *Arabidopsis* plants overexpressing the histone methyltransferase SUVH2. *J Plant Growth* 33, 119-136.
- Öst A, Lempradl A, Casa E, Weigert M, Tiko T, Deniz M, Pantano L, Boenisch U, Itskov PM, Stoeckius M, Ruf M, Rajewsky N, Reuter G, Iovino N, Ribeiro C, Alenius M, Heyne S, Vavouri T, Pospisilik JA (2014) Paternal diet defines offspring chromatin state and intergenerational obesity. *Cell* 159, 1352-1364.
- Meyer RC, Höning G, Brandt R, Arana-Ceballos F, Neitsch C, Reuter G, Thomas Altmann T, Kuhlmann M (2015) Overexpression of *Arabidopsis thaliana* *ERI*, the homolog of *C. elegans* *Enhancer of RNAinterference*, leads to enhanced growth. *Frontiers in Plant Science* | www.frontiersin.org July 2015 | Volume 6 | Article 5311
- Niehaus EM, Studt L, von Bargen KW, Kummer W, Humpf HU, Reuter G, Tudzynski B (2016) Sound of silence: the beauvericin cluster in *Fusarium fujikuroi* is controlled by cluster-specific and global regulators mediated by H3K27 modification. *Environ. Microbiol.* 18: 4282-4302.
- Jeltsch A, Ehrenhofer-Murray A, Jurkowski TP, Lyko F, Reuter G, Ankri S, Nellen W, Schaefer M, Helm M (2017) Mechanism and biological role of Dnmt2 in Nucleic Acid Methylation. *RNA Biol.* 14, 1108-1123.
- Dorafshan E, Kahn TG, Glotov A, Savitsky M, Walther M, Reuter G, Schwartz YB (2019) Ash1 counteracts Polycomb repression independent of histone H3 lysine 36 methylation. *EMBO Rep* 20: e46762
- Walther M, Schrahn S, Krauss V, Lein S, Kessler J, Jenuwein T, Reuter G (2020) Heterochromatin formation in *Drosophila* requires genome-wide histone deacetylation in cleavage chromatin before mid-blastula transition in early embryogenesis. *Chromosoma* 129, 83–98.