

7 LITERATURLISTE

- Aalfs, J. D. and Kingston, R. E. (2000).** What does 'chromatin remodeling' mean? Trends Biochem Sci 25(11): 548-555.
- Adams, M. D. et al. (2000).** The genome sequence of *Drosophila melanogaster*. Science 287(5461): 2185-2195.
- Affolter, M., Schier, A. and Gehring, W. J. (1990).** Homeodomain proteins and the regulation of gene expression. Curr Opin Cell Biol 2(3): 485-495.
- Agianian, B., Leonard, K., Bonte, E., Van der Zandt, H., Becker, P. B. and Tucker, P. A. (1999).** The glutamine-rich domain of the *Drosophila* GAGA factor is necessary for amyloid fibre formation in vitro, but not for chromatin remodelling. J Mol Biol 285(2): 527-544.
- Ahmad, K. F., Engel, C. K. and Prive, G. G. (1998).** Crystal structure of the BTB domain from PLZF. Proc Natl Acad Sci U S A 95(21): 12123-12128.
- Albagli, O., Dhordain, P., Deweindt, C., Lecocq, G. and Leprince, D. (1995).** The BTB/POZ domain: a new protein-protein interaction motif common to DNA- and actin-binding proteins. Cell Growth Differ 6(9): 1193-1198.
- Altschul, S. F., Madden, T. L., Schaffer, A. A., Zhang, J., Zhang, Z., Miller, W. and Lipman, D. J. (1997).** Gapped BLAST and PSI-BLAST: a new generation of protein database search programs. Nucleic Acids Res 25(17): 3389-3402.
- Americo, J., Whiteley, M., Brown, J. L., Fujioka, M., Jaynes, J. B. and Kassis, J. A. (2002).** A Complex Array of DNA-Binding Proteins Required for Pairing-Sensitive Silencing by a Polycomb Group Response Element From the *Drosophila* engrailed Gene. Genetics 160(4): 1561-1571.
- Anderson, K. (1995).** One signal, two body axes. Science 269(5223): 489-490.
- Ashburner, M. (1989).** *Drosophila: A laboratory handbook*. New York, Cold Spring Harbor Laboratory Press.
- Baehrecke, E. H. and Thummel, C. S. (1995).** The *Drosophila* E93 gene from the 93F early puff displays stage- and tissue-specific regulation by 20-hydroxyecdysone. Dev Biol 171(1): 85-97.
- Bairoch, A. and Apweiler, R. (2000).** The SWISS-PROT protein sequence database and its supplement TrEMBL in 2000. Nucleic Acids Res 28(1): 45-48.
- Bardwell, V. J. and Treisman, R. (1994).** The POZ domain: a conserved protein-protein interaction motif. Genes Dev 8(14): 1664-1677.
- Bateman, A., Birney, E., Cerruti, L., Durbin, R., Etwiller, L., Eddy, S. R., Griffiths-Jones, S., Howe, K. L., Marshall, M. and Sonnhammer, E. L. (2002).** The Pfam protein families database. Nucleic Acids Res 30(1): 276-280.
- Becker, P. B. (1995).** *Drosophila* chromatin and transcription. Semin Cell Biol 6(4): 185-190.
- Benson, D. A., Karsch-Mizrachi, I., Lipman, D. J., Ostell, J., Rapp, B. A. and Wheeler, D. L. (2002).** GenBank. Nucleic Acids Res 30(1): 17-20.

- Benyajati, C., Ewel, A., McKeon, J., Chovav, M. and Juan, E. (1992).** Characterization and purification of Adh distal promoter factor 2, Adf- 2, a cell-specific and promoter-specific repressor in Drosophila. Nucleic Acids Res 20(17): 4481-4489.
- Benyajati, C., Mueller, L., Xu, N., Pappano, M., Gao, J., Mosammaparast, M., Conklin, D., Granok, H., Craig, C. and Elgin, S. (1997).** Multiple isoforms of GAGA factor, a critical component of chromatin structure. Nucleic Acids Res 25(16): 3345-3353.
- Bhat, K. M., Farkas, G., Karch, F., Gyurkovics, H., Gausz, J. and Schedl, P. (1996).** The GAGA factor is required in the early Drosophila embryo not only for transcriptional regulation but also for nuclear division. Development 122(4): 1113-1124.
- Biggin, M. D., Bickel, S., Benson, M., Pirrotta, V. and Tjian, R. (1988).** Zeste encodes a sequence-specific transcription factor that activates the Ultrabithorax promoter in vitro. Cell 53(5): 713-722.
- Biggin, M. D. and Tjian, R. (1988).** Transcription factors that activate the Ultrabithorax promoter in developmentally staged extracts. Cell 53(5): 699-711.
- Birnboim, H. C. and Doly, J. (1979).** A rapid alkaline extraction procedure for screening recombinant plasmid DNA. Nucleic Acids Res 7(6): 1513-1523.
- Blake, K. J., Myette, G. and Jack, J. (1998).** The products of ribbon and raw are necessary for proper cell shape and cellular localization of nonmuscle myosin in Drosophila. Dev Biol 203(1): 177-188.
- Blake, K. J., Myette, G. and Jack, J. (1999).** ribbon, raw, and zipper have distinct functions in reshaping the Drosophila cytoskeleton. Dev Genes Evol 209(9): 555-559. 555.htm.
- Bradford, M. M. (1976).** A rapid and sensitive method for the quantitation of microgram quantities of protein utilizing the principle of protein-dye binding. Anal Biochem 72: 248-254.
- Bradley, P. L. and Andrew, D. J. (2001).** ribbon encodes a novel BTB/POZ protein required for directed cell migration in Drosophila melanogaster. Development 128(15): 3001-3015.
- Brock, H. W. and van Lohuizen, M. (2001).** The Polycomb group--no longer an exclusive club? Curr Opin Genet Dev 11(2): 175-181.
- Brown, J. L., Mucci, D., Whiteley, M., Dirksen, M. L. and Kassis, J. A. (1998).** The Drosophila Polycomb group gene pleiohomeotic encodes a DNA binding protein with homology to the transcription factor YY1. Mol Cell 1(7): 1057-1064.
- Brutlag, D. L. (1980).** Molecular arrangement and evolution of heterochromatic DNA. Annu Rev Genet 14: 121-144.
- Bullock, W. O., Fernandez, J. M. and Short, J. M. (1987).** BioTechniques: XL1-Blue: A high efficiency plasmid transforming recA Escherichia coli strain with beta-galactosidase selection.
- Busturia, A., Lloyd, A., Bejarano, F., Zavortink, M., Xin, H. and Sakonju, S. (2001).** The MCP silencer of the Drosophila Abd-B gene requires both Pleiohomeotic and GAGA factor for the maintenance of repression. Development 128(11): 2163-2173.

- Busturia, A. and Morata, G.** (1988). Ectopic expression of homeotic genes caused by the elimination of the Polycomb gene in *Drosophila* imaginal epidermis. *Development* 104(4): 713-720.
- Cartwright, I. L. and Elgin, S. C.** (1986). Nucleosomal instability and induction of new upstream protein-DNA associations accompany activation of four small heat shock protein genes in *Drosophila melanogaster*. *Mol Cell Biol* 6(3): 779-791.
- Castelli-Gair, J., Greig, S., Micklem, G. and Akam, M.** (1994). Dissecting the temporal requirements for homeotic gene function. *Development* 120(7): 1983-1995.
- Cavener, D. R. and Ray, S. C.** (1991). Eukaryotic start and stop translation sites. *Nucleic Acids Res* 19(12): 3185-3192.
- Chang, C. C., Ye, B. H., Chaganti, R. S. and Dalla-Favera, R.** (1996). BCL-6, a POZ/zinc-finger protein, is a sequence-specific transcriptional repressor. *Proc Natl Acad Sci U S A* 93(14): 6947-6952.
- Collins, T., Stone, J. R. and Williams, A. J.** (2001). All in the family: the BTB/POZ, KRAB, and SCAN domains. *Mol Cell Biol* 21(11): 3609-3615.
- Croston, G. E., Kerrigan, L. A., Lira, L. M., Marshak, D. R. and Kadonaga, J. T.** (1991). Sequence-specific antirepression of histone H1-mediated inhibition of basal RNA polymerase II transcription. *Science* 251(4994): 643-649.
- Deuring, R., Fanti, L., Armstrong, J. A., Sarte, M., Papoulias, O., Prestel, M., Daubresse, G., Verardo, M., Moseley, S. L., Berloco, M., Tsukiyama, T., Wu, C., Pimpinelli, S. and Tamkun, J. W.** (2000). The ISWI chromatin-remodeling protein is required for gene expression and the maintenance of higher order chromatin structure in vivo. *Mol Cell* 5(2): 355-365.
- Deweindt, C., Albagli, O., Bernardin, F., Dhordain, P., Quief, S., Lantoine, D., Kerckaert, J. P. and Leprince, D.** (1995). The LAZ3/BCL6 oncogene encodes a sequence-specific transcriptional inhibitor: a novel function for the BTB/POZ domain as an autonomous repressing domain. *Cell Growth Differ* 6(12): 1495-1503.
- DiBello, P. R., Withers, D. A., Bayer, C. A., Fristrom, J. W. and Guild, G. M.** (1991). The *Drosophila* Broad-Complex encodes a family of related proteins containing zinc fingers. *Genetics* 129(2): 385-397.
- Dorn, R., Krauss, V., Reuter, G. and Saumweber, H.** (1993a). The enhancer of position-effect variegation of *Drosophila*, E(var)3-93D, codes for a chromatin protein containing a conserved domain common to several transcriptional regulators. *Proc Natl Acad Sci U S A* 90(23): 11376-11380.
- Dorn, R., Szidonya, J., Korge, G., Sehnert, M., Taubert, H., Archoukieh, E., Tschiersch, B., Morawietz, H., Wustmann, G., Hoffmann, G. and et al.** (1993b). P transposon-induced dominant mutations of position-effect variegation of *Drosophila melanogaster*. *Genetics* 133(2): 279-290.
- Duncan, I.** (1987). The bithorax complex. *Annu Rev Genet* 21: 285-319.
- Eberharter, A. and Becker, P. B.** (2002). Histone acetylation: a switch between repressive and permissive chromatin: Second in review series on chromatin dynamics. *EMBO Rep* 3(3): 224-229.

Eissenberg, J. C. and Elgin, S. C. (2000). The HP1 protein family: getting a grip on chromatin. *Curr Opin Genet Dev* 10(2): 204-210.

Eissenberg, J. C. and Hartnett, T. (1993). A heat shock-activated cDNA rescues the recessive lethality of mutations in the heterochromatin-associated protein HP1 of *Drosophila melanogaster*. *Mol Gen Genet* 240(3): 333-338.

Eissenberg, J. C., James, T. C., Foster-Hartnett, D. M., Hartnett, T., Ngan, V. and Elgin, S. C. (1990). Mutation in a heterochromatin-specific chromosomal protein is associated with suppression of position-effect variegation in *Drosophila melanogaster*. *Proc Natl Acad Sci U S A* 87(24): 9923-9927.

Eissenberg, J. C., Morris, G. D., Reuter, G. and Hartnett, T. (1992). The heterochromatin-associated protein HP-1 is an essential protein in *Drosophila* with dosage-dependent effects on position-effect variegation. *Genetics* 131(2): 345-352.

Elgin, S. C. (1996). Heterochromatin and gene regulation in *Drosophila*. *Curr Opin Genet Dev* 6(2): 193-202.

Emery, I. F., Bedian, V. and Guild, G. M. (1994). Differential expression of Broad-Complex transcription factors may forecast tissue-specific developmental fates during *Drosophila* metamorphosis. *Development* 120(11): 3275-3287.

Espinás, M. L., Canudas, S., Fanti, L., Pimpinelli, S., Casanova, J. and Azorin, F. (2000). The GAGA factor of *Drosophila* interacts with SAP18, a Sin3-associated polypeptide. *EMBO Rep* 1(3): 253-259.

Espinás, M. L., Jimenez-Garcia, E., Vaquero, A., Canudas, S., Bernues, J. and Azorin, F. (1999). The N-terminal POZ domain of GAGA mediates the formation of oligomers that bind DNA with high affinity and specificity. *J Biol Chem* 274(23): 16461-16469.

Evans, B. A. and Howells, A. J. (1978). Control of drosopterin synthesis in *Drosophila melanogaster*: mutants showing an altered pattern of GTP cyclohydrolase activity during development. *Biochem Genet* 16(1-2): 13-26.

Fanti, L., Giovinazzo, G., Berloco, M. and Pimpinelli, S. (1998). The heterochromatin protein 1 prevents telomere fusions in *Drosophila*. *Mol Cell* 2(5): 527-538.

Farkas, G., Gausz, J., Galloni, M., Reuter, G., Gyurkovics, H. and Karch, F. (1994). The Trithorax-like gene encodes the *Drosophila* GAGA factor. *Nature* 371(6500): 806-808.

Faucheuix, M., Netter, S., Bloyer, S., Moussa, M., Boissonneau, E., Lemeunier, F., Wegnez, M. and Theodore, L. (2001). Advantages of a P-element construct containing MtnA sequences for the identification of patterning and cell determination genes in *Drosophila melanogaster*. *Mol Genet Genomics* 265(1): 14-22.

Feng, J. A., Johnson, R. C. and Dickerson, R. E. (1994). Hin recombinase bound to DNA: the origin of specificity in major and minor groove interactions. *Science* 263(5145): 348-355.

Fletcher, T. M. and Hansen, J. C. (1996). The nucleosomal array: structure/function relationships. *Crit Rev Eukaryot Gene Expr* 6(2-3): 149-188.

FlyBase (2002). The FlyBase database of the Drosophila genome projects and community literature. Nucleic Acids Res 30(1): 106-108.

Galloni, M., Gyurkovics, H., Schedl, P. and Karch, F. (1993). The bluetail transposon: evidence for independent cis-regulatory domains and domain boundaries in the bithorax complex. Embo J 12(3): 1087-1097.

Gerasimova, T. I., Gdula, D. A., Gerasimov, D. V., Simonova, O. and Corces, V. G. (1995). A Drosophila protein that imparts directionality on a chromatin insulator is an enhancer of position-effect variegation. Cell 82(4): 587-597.

Gildea, J. J., Lopez, R. and Shearn, A. (2000). A screen for new trithorax group genes identified little imaginal discs, the Drosophila melanogaster homologue of human retinoblastoma binding protein 2. Genetics 156(2): 645-663.

Gilmour, D. S., Thomas, G. H. and Elgin, S. C. (1989). Drosophila nuclear proteins bind to regions of alternating C and T residues in gene promoters. Science 245(4925): 1487-1490.

Gish, W. (1996-2002). <http://blast.wustl.edu>.

Godt, D., Couderc, J. L., Cramton, S. E. and Laski, F. A. (1993). Pattern formation in the limbs of Drosophila: bric a brac is expressed in both a gradient and a wave-like pattern and is required for specification and proper segmentation of the tarsus. Development 119(3): 799-812.

Godt, D. and Laski, F. A. (1995). Mechanisms of cell rearrangement and cell recruitment in Drosophila ovary morphogenesis and the requirement of bric a brac. Development 121(1): 173-187.

Gonzalez-Reyes, A. and Morata, G. (1990). The developmental effect of overexpressing a Ubx product in Drosophila embryos is dependent on its interactions with other homeotic products. Cell 61(3): 515-522.

Granok, H., Leibovitch, B. A., Shaffer, C. D. and Elgin, S. C. (1995). Chromatin. Ga-ga over GAGA factor. Curr Biol 5(3): 238-241.

Greenberg, A. J. and Schedl, P. (2001). GAGA factor isoforms have distinct but overlapping functions in vivo. Mol Cell Biol 21(24): 8565-8574.

Hagstrom, K., Müller, M. and Schedl, P. (1997). A Polycomb and GAGA dependent silencer adjoins the Fab-7 boundary in the Drosophila bithorax complex. Genetics 146(4): 1365-1380.

Harding, K., Hoey, T., Warrior, R. and Levine, M. (1989). Autoregulatory and gap gene response elements of the even-skipped promoter of Drosophila. Embo J 8(4): 1205-1212.

Harrison, S. D. and Travers, A. A. (1990). The tramtrack gene encodes a Drosophila finger protein that interacts with the ftz transcriptional regulatory region and shows a novel embryonic expression pattern. Embo J 9(1): 207-216.

Hayashi, S. and Scott, M. P. (1990). What determines the specificity of action of Drosophila homeodomain proteins? Cell 63(5): 883-894.

Hayes, J. J. and Hansen, J. C. (2001). Nucleosomes and the chromatin fiber. Curr Opin Genet Dev 11(2): 124-129.

- Heitz, E. (1928).** Das Heterochromatin der Moose. Jb. Wiss. Bot. 69: 728-818.
- Henikoff, S. (1996).** Dosage-dependent modification of position-effekt variegation in Drosophila. Bioassays 18: 401-409.
- Hodgson, J. W., Argiropoulos, B. and Brock, H. W. (2001).** Site-specific recognition of a 70-base-pair element containing d(GA)(n) repeats mediates bithoraxoid polycomb group response element-dependent silencing. Mol Cell Biol 21(14): 4528-4543.
- Holmquist, G. P. (1987).** Role of replication time in the control of tissue-specific gene expression. Am J Hum Genet 40(2): 151-173.
- Horard, B., Tatout, C., Poux, S. and Pirrotta, V. (2000).** Structure of a polycomb response element and in vitro binding of polycomb group complexes containing GAGA factor. Mol Cell Biol 20(9): 3187-3197.
- Horowitz, H. and Berg, C. A. (1995).** Aberrant splicing and transcription termination caused by P element insertion into the intron of a Drosophila gene. Genetics 139(1): 327-335.
- Horowitz, H. and Berg, C. A. (1996).** The Drosophila pipsqueak gene encodes a nuclear BTB-domain-containing protein required early in oogenesis. Development 122(6): 1859-1871.
- Hu, S., Fambrough, D., Atashi, J. R., Goodman, C. S. and Crews, S. T. (1995).** The Drosophila abrupt gene encodes a BTB-zinc finger regulatory protein that controls the specificity of neuromuscular connections. Genes Dev 9(23): 2936-2948.
- Hur, M. W., Laney, J. D., Jeon, S. H., Ali, J. and Biggin, M. D. (2002).** Zeste maintains repression of Ubx transgenes: support for a new model of Polycomb repression. Development 129(6): 1339-1343.
- Ito, K., Urban, J. and Technau, G. M. (1995).** Roux's Arch. Dev. Biol.: Distribution, classification, and development of Drosophila glia cells in the late embryonic and early larval ventral nerve cord.
- Iwahara, J., Kigawa, T., Kitagawa, K., Masumoto, H., Okazaki, T. and Yokoyama, S. (1998).** A helix-turn-helix structure unit in human centromere protein B (CENP- B). Embo J 17(3): 827-837.
- Jack, J. and Myette, G. (1997).** The genes raw and ribbon are required for proper shape of tubular epithelial tissues in Drosophila. Genetics 147(1): 243-253.
- Jacobs, J. J. and van Lohuizen, M. (1999).** Cellular memory of transcriptional states by Polycomb-group proteins. Semin Cell Dev Biol 10(2): 227-35.
- James, T. C., Eissenberg, J. C., Craig, C., Dietrich, V., Hobson, A. and Elgin, S. C. (1989).** Distribution patterns of HP1, a heterochromatin-associated nonhistone chromosomal protein of Drosophila. Eur J Cell Biol 50(1): 170-180.
- James, T. C. and Elgin, S. C. (1986).** Identification of a nonhistone chromosomal protein associated with heterochromatin in *Drosophila melanogaster* and its gene. Mol Cell Biol 6(11): 3862-3872.
- Janknecht, R., Sander, C. and Pongs, O. (1991).** (HX)n repeats: a pH-controlled protein-protein interaction motif of eukaryotic transcription factors? FEBS Lett 295(1-3): 1-2.

- John, B. and Miklos, G. L. (1979).** Functional aspects of satellite DNA and heterochromatin. *Int Rev Cytol* 58: 1-114.
- Kaplan, J. and Calame, K. (1997).** The ZIN/POZ domain of ZF5 is required for both transcriptional activation and repression. *Nucleic Acids Res* 25(6): 1108-1116.
- Karberg, S. (1996).** Genetische und molekularbiologische Untersuchungen der p(IArB)-Transformationslinie D6-3-1. Diplomarbeit im Fach Biologie der Freien Universität Berlin.
- Karpen, G. H. (1994).** Position-effect variegation and the new biology of heterochromatin. *Curr Opin Genet Dev* 4(2): 281-291.
- Kassis, J. A. (1994).** Unusual properties of regulatory DNA from the *Drosophila* engrailed gene: three "pairing-sensitive" sites within a 1.6-kb region. *Genetics* 136(3): 1025-1038.
- Katsani, K. R., Hajibagheri, M. A. and Verrijzer, C. P. (1999).** Co-operative DNA binding by GAGA transcription factor requires the conserved BTB/POZ domain and reorganizes promoter topology. *Embo J* 18(3): 698-708.
- Kauffman, S. A. (1981).** Patterns of temperature sensitivity in Contrabithorax/Ultrabithorax heterozygotes of *Drosophila*. *Dev Biol* 88(2): 341-351.
- Kaufman, T. C., Seeger, M. A. and Olsen, G. (1990).** Molecular and genetic organization of the antennapedia gene complex of *Drosophila melanogaster*. *Adv Genet* 27: 309-362.
- Kehle, J., Beuchle, D., Treuheit, S., Christen, B., Kennison, J. A., Bienz, M. and Müller, J. (1998).** dMi-2, a hunchback-interacting protein that functions in polycomb repression. *Science* 282(5395): 1897-1900.
- Kennison, J. A. (1995).** The Polycomb and trithorax group proteins of *Drosophila*: trans-regulators of homeotic gene function. *Annu Rev Genet* 29: 289-303.
- Kerrigan, L. A., Croston, G. E., Lira, L. M. and Kadonaga, J. T. (1991).** Sequence-specific transcriptional antirepression of the *Drosophila* Kruppel gene by the GAGA factor. *J Biol Chem* 266(1): 574-582.
- King-Jones, K., Korge, G. and Lehmann, M. (1999).** The helix-loop-helix proteins dAP-4 and daughterless bind both in vitro and in vivo to SEBP3 sites required for transcriptional activation of the *Drosophila* gene Sgs-4. *J Mol Biol* 291(1): 71-82.
- Klug, A. and Schwabe, J. W. (1995).** Protein motifs 5. Zinc fingers. *Faseb J* 9(8): 597-604.
- Kopp, A., Duncan, I., Godt, D. and Carroll, S. B. (2000).** Genetic control and evolution of sexually dimorphic characters in *Drosophila*. *Nature* 408(6812): 553-559.
- Korge, G. (1977).** Direct correlation between a chromosome puff and the synthesis of a larval saliva protein in *Drosophila melanogaster*. *Chromosoma* 62(2): 155-174.
- Kornberg, R. D. and Lorch, Y. (1999a).** Chromatin-modifying and -remodeling complexes. *Curr Opin Genet Dev* 9(2): 148-151.
- Kornberg, R. D. and Lorch, Y. (1999b).** Twenty-five years of the nucleosome, fundamental particle of the eukaryote chromosome. *Cell* 98(3): 285-294.

Laemmli, U. K. (1970). Cleavage of structural proteins during the assembly of the head of bacteriophage T4. *Nature* 227(259): 680-685.

LaJeunesse, D. and Shearn, A. (1996). E(z): a polycomb group gene or a trithorax group gene? *Development* 122(7): 2189-2197.

Lamka, M. L., Boulet, A. M. and Sakonju, S. (1992). Ectopic expression of UBX and ABD-B proteins during Drosophila embryogenesis: competition, not a functional hierarchy, explains phenotypic suppression. *Development* 116(4): 841-854.

Laney, J. D. and Biggin, M. D. (1992). zeste, a nonessential gene, potently activates Ultrabithorax transcription in the Drosophila embryo. *Genes Dev* 6(8): 1531-1541.

Laney, J. D. and Biggin, M. D. (1996). Redundant control of Ultrabithorax by zeste involves functional levels of zeste protein binding at the Ultrabithorax promoter. *Development* 122(7): 2303-2311.

Laney, J. D. and Biggin, M. D. (1997). Zeste-mediated activation by an enhancer is independent of cooperative DNA binding in vivo. *Proc Natl Acad Sci U S A* 94(8): 3602-3604.

Lee, C. Y., Wendel, D. P., Reid, P., Lam, G., Thummel, C. S. and Baehrecke, E. H. (2000). E93 directs steroid-triggered programmed cell death in Drosophila. *Mol Cell* 6(2): 433-443.

Lehmann, M. and Korge, G. (1995). Ecdysone regulation of the Drosophila Sgs-4 gene is mediated by the synergistic action of ecdysone receptor and SEBP 3. *Embo J* 14(4): 716-726.

Lehmann, M. and Korge, G. (1996). The fork head product directly specifies the tissue-specific hormone responsiveness of the Drosophila Sgs-4 gene. *Embo J* 15(18): 4825-4834.

Lehmann, M., Siegmund, T., Lintermann, K. G. and Korge, G. (1998). The pipsqueak protein of Drosophila melanogaster binds to GAGA sequences through a novel DNA-binding domain. *J Biol Chem* 273(43): 28504-28509.

Lewis, E. B. (1978). A gene complex controlling segmentation in Drosophila. *Nature* 276(5688): 565-570.

Lis, J. and Wu, C. (1993). Protein traffic on the heat shock promoter: parking, stalling, and trucking along. *Cell* 74(1): 1-4.

Locke, J., Kotarski, M. A. and Tartof, K. D. (1988). Dosage-dependent modifiers of position effect variegation in Drosophila and a mass action model that explains their effect. *Genetics* 120(1): 181-198.

Lohe, A. R., Hilliker, A. J. and Roberts, P. A. (1993). Mapping simple repeated DNA sequences in heterochromatin of Drosophila melanogaster. *Genetics* 134(4): 1149-1174.

Lu, Q., Wallrath, L. L., Granok, H. and Elgin, S. C. (1993). (CT)n (GA)n repeats and heat shock elements have distinct roles in chromatin structure and transcriptional activation of the Drosophila hsp26 gene. *Mol Cell Biol* 13(5): 2802-2814.

Luger, K. and Richmond, T. J. (1998). The histone tails of the nucleosome. *Curr Opin Genet Dev* 8(2): 140-146.

- Lukashin, A. V. and Borodovsky, M.** (1998). GeneMark.hmm: new solutions for gene finding. *Nucleic Acids Res* 26(4): 1107-1115.
- Lyko, F. and Paro, R.** (1999). Chromosomal elements conferring epigenetic inheritance. *Bioessays* 21(10): 824-832.
- Mahmoudi, T. and Verrijzer, C. P.** (2001). Chromatin silencing and activation by Polycomb and trithorax group proteins. *Oncogene* 20(24): 3055-3066.
- McGinnis, W. and Krumlauf, R.** (1992). Homeobox genes and axial patterning. *Cell* 68(2): 283-302.
- Messmer, S., Franke, A. and Paro, R.** (1992). Analysis of the functional role of the Polycomb chromo domain in *Drosophila melanogaster*. *Genes Dev* 6(7): 1241-1254.
- Miklos, G. L., Yamamoto, M. T., Davies, J. and Pirrotta, V.** (1988). Microcloning reveals a high frequency of repetitive sequences characteristic of chromosome 4 and the beta-heterochromatin of *Drosophila melanogaster*. *Proc Natl Acad Sci U S A* 85(7): 2051-2055.
- Mishima, K., Price, S. R., Nightingale, M. S., Kousvelari, E., Moss, J. and Vaughan, M.** (1992). Regulation of ADP-ribosylation factor (ARF) expression. Cross-species conservation of the developmental and tissue-specific alternative polyadenylation of ARF 4 mRNA. *J Biol Chem* 267(33): 24109-24116.
- Mishra, R. K., Mihaly, J., Barges, S., Spierer, A., Karch, F., Hagstrom, K., Schweinsberg, S. E. and Schedl, P.** (2001). The iab-7 polycomb response element maps to a nucleosome-free region of chromatin and requires both GAGA and pleiohomeotic for silencing activity. *Mol Cell Biol* 21(4): 1311-1318.
- Mount, S. M., Burks, C., Hertz, G., Stormo, G. D., White, O. and Fields, C.** (1992). Splicing signals in *Drosophila*: intron size, information content, and consensus sequences. *Nucleic Acids Res* 20(16): 4255-4262.
- Müller, J. and Bienz, M.** (1991). Long range repression conferring boundaries of Ultrabithorax expression in the *Drosophila* embryo. *Embo J* 10(11): 3147-3155.
- Nüsslein-Volhard, C., Frohnhofer, H. G. and Lehmann, R.** (1987). Determination of anteroposterior polarity in *Drosophila*. *Science* 238(4834): 1675-1681.
- O'Donnell, K. H. and Wensink, P. C.** (1994). GAGA factor and TBF1 bind DNA elements that direct ubiquitous transcription of the *Drosophila* alpha 1-tubulin gene. *Nucleic Acids Res* 22(22): 4712-4718.
- Ohkubo, H., Nakayama, K., Tanaka, T. and Nakanishi, S.** (1986). Tissue distribution of rat angiotensinogen mRNA and structural analysis of its heterogeneity. *J Biol Chem* 261(1): 319-323.
- Okada, M. and Hirose, S.** (1998). Chromatin remodeling mediated by *Drosophila* GAGA factor and ISWI activates fushi tarazu gene transcription in vitro. *Mol Cell Biol* 18(5): 2455-2461.
- Omichinski, J. G., Pedone, P. V., Felsenfeld, G., Gronenborn, A. M. and Clore, G. M.** (1997). The solution structure of a specific GAGA factor-DNA complex reveals a modular binding mode. *Nat Struct Biol* 4(2): 122-132.

- Orlando, V. and Paro, R.** (1993). Mapping Polycomb-repressed domains in the bithorax complex using *in vivo* formaldehyde cross-linked chromatin. *Cell* 75(6): 1187-1198.
- Paro, R. and Harte, J., Eds.** (1996). The role of Polycomb and trithorax group chromatin complexes in the maintenance of determined cell states. *Epigenetics Mechanisms of Gene Regulation*, Cold Spring Harbor Laboratory Press.
- Paro, R. and Hogness, D. S.** (1991). The Polycomb protein shares a homologous domain with a heterochromatin-associated protein of *Drosophila*. *Proc Natl Acad Sci U S A* 88(1): 263-267.
- Pattatucci, A. M. and Kaufman, T. C.** (1991). The homeotic gene Sex combs reduced of *Drosophila melanogaster* is differentially regulated in the embryonic and imaginal stages of development. *Genetics* 129(2): 443-461.
- Pedone, P. V., Ghirlando, R., Clore, G. M., Gronenborn, A. M., Felsenfeld, G. and Omichinski, J. G.** (1996). The single Cys2-His2 zinc finger domain of the GAGA protein flanked by basic residues is sufficient for high-affinity specific DNA binding. *Proc Natl Acad Sci U S A* 93(7): 2822-2826.
- Pimpinelli, S., Bonaccorsi, L., Fanti, L. and Gatti, M.** (2000). *Drosophila Protocols: Preparation and analysis of Drosophila mitotic chromosomes*. Cold Spring Harbor, Cold Spring Harbor Laboratory Press.
- Pimpinelli, S., Bonaceorsi, J., Gatti, M. and Sandler, L.** (1986). The peculiar genetic organization of *Drosophila* heterochromatin. *Trends Genet.* 2: 17-20.
- Pirrotta, V.** (1997). Chromatin-silencing mechanisms in *Drosophila* maintain patterns of gene expression. *Trends Genet* 13(8): 314-318.
- Pirrotta, V.** (1998). Polycombing the genome: PcG, trxG, and chromatin silencing. *Cell* 93(3): 333-336.
- Pirrotta, V.** (1999). Transvection and chromosomal trans-interaction effects. *Biochim Biophys Acta* 1424(1): M1-8.
- Pirrotta, V., Chan, C. S., McCabe, D. and Qian, S.** (1995). Distinct parasegmental and imaginal enhancers and the establishment of the expression pattern of the *Ubx* gene. *Genetics* 141(4): 1439-1450.
- Platero, J. S., Csink, A. K., Quintanilla, A. and Henikoff, S.** (1998). Changes in chromosomal localization of heterochromatin-binding proteins during the cell cycle in *Drosophila*. *J Cell Biol* 140(6): 1297-1306.
- Platero, J. S., Hartnett, T. and Eissenberg, J. C.** (1995). Functional analysis of the chromo domain of HP1. *Embo J* 14(16): 3977-3986.
- Platero, J. S., Sharp, E. J., Adler, P. N. and Eissenberg, J. C.** (1996). *In vivo* assay for protein-protein interactions using *Drosophila* chromosomes. *Chromosoma* 104(6): 393-404.
- Poux, S., Horard, B., Sigrist, C. J. and Pirrotta, V.** (2002). The *Drosophila* trithorax protein is a coactivator required to prevent re-establishment of polycomb silencing. *Development* 129(10): 2483-2493.
- Poux, S., McCabe, D. and Pirrotta, V.** (2001a). Recruitment of components of Polycomb Group chromatin complexes in *Drosophila*. *Development* 128(1): 75-85.

Poux, S., Melfi, R. and Pirrotta, V. (2001b). Establishment of Polycomb silencing requires a transient interaction between PC and ESC. *Genes Dev* 15(19): 2509-2514.

Powers, J. A. and Eissenberg, J. C. (1993). Overlapping domains of the heterochromatin-associated protein HP1 mediate nuclear localization and heterochromatin binding. *J Cell Biol* 120(2): 291-299.

Qian, S., Capovilla, M. and Pirrotta, V. (1991). The bx region enhancer, a distant cis-control element of the Drosophila Ubx gene and its regulation by hunchback and other segmentation genes. *Embo J* 10(6): 1415-1425.

Qian, S., Capovilla, M. and Pirrotta, V. (1993). Molecular mechanisms of pattern formation by the BRE enhancer of the Ubx gene. *Embo J* 12(10): 3865-3877.

Raff, J. W., Kellum, R. and Alberts, B. (1994). The Drosophila GAGA transcription factor is associated with specific regions of heterochromatin throughout the cell cycle. *Embo J* 13(24): 5977-5983.

Read, C. M. and Driscoll, P. C. (1997). GAGA over the nucleosome. *Nat Struct Biol* 4(2): 87-89.

Read, D., Nishigaki, T. and Manley, J. L. (1990). The Drosophila even-skipped promoter is transcribed in a stage-specific manner in vitro and contains multiple, overlapping factor-binding sites. *Mol Cell Biol* 10(8): 4334-4344.

Renault, N., King-Jones, K. and Lehmann, M. (2001). Downregulation of the tissue-specific transcription factor Fork head by Broad-Complex mediates a stage-specific hormone response. *Development* 128(19): 3729-3737.

Research Genetics. <http://www.resgen.com/products/DEST.php3>

Reuter, G. and Spierer, P. (1992). Position effect variegation and chromatin proteins. *Bioessays* 14(9): 605-612.

Rice, P., Longden, I. and Bleasby, A. (2000). EMBOSS: The European Molecular Biology Open Software Suite. *Trends in Genetics* 16: 276-277.

Richards, E. J. and Elgin, S. C. (2002). Epigenetic codes for heterochromatin formation and silencing: rounding up the usual suspects. *Cell* 108(4): 489-500.

Robinson, D. N. and Cooley, L. (1997). Drosophila kelch is an oligomeric ring canal actin organizer. *J Cell Biol* 138(4): 799-810.

Rubin, G. M., Hong, L., Brokstein, P., Evans-Holm, M., Frise, E., Stapleton, M. and Harvey, D. A. (2000). A Drosophila complementary DNA resource. *Science* 287(5461): 2222-2224.

Rudkin, G. T. (1969). Non replicating DNA in Drosophila. *Genetics* 61(1): 227-238.

Ryner, L. C., Goodwin, S. F., Castrillon, D. H., Anand, A., Villella, A., Baker, B. S., Hall, J. C., Taylor, B. J. and Wasserman, S. A. (1996). Control of male sexual behavior and sexual orientation in Drosophila by the fruitless gene. *Cell* 87(6): 1079-1089.

Sambrook, J., Fritsch, E. F. and Maniatis, T. (1989). Molecular Cloning: A laboratory manual. Cold Spring Harbor, New York, Cold Spring Harbor Laboratory Press.

Schupbach, T. and Roth, S. (1994). Dorsoventral patterning in Drosophila oogenesis. *Curr Opin Genet Dev* 4(4): 502-507.

- Schwendemann, A., Siegmund, T. and Lehmann, M.** (2001). Piefke encodes a new member of the family of Psq-domain DNA-binding proteins. *Dros Res Conf* 42: 245B.
- Seyfert, V. L., Allman, D., He, Y. and Staudt, L. M.** (1996). Transcriptional repression by the proto-oncogene BCL-6. *Oncogene* 12(11): 2331-2342.
- Shearn, A.** (1989). The ash-1, ash-2 and trithorax genes of *Drosophila melanogaster* are functionally related. *Genetics* 121(3): 517-525.
- Shim, K., Blake, K. J., Jack, J. and Krasnow, M. A.** (2001). The *Drosophila* ribbon gene encodes a nuclear BTB domain protein that promotes epithelial migration and morphogenesis. *Development* 128(23): 4923-4933.
- Shopland, L. S., Hirayoshi, K., Fernandes, M. and Lis, J. T.** (1995). HSF access to heat shock elements *in vivo* depends critically on promoter architecture defined by GAGA factor, TFIID, and RNA polymerase II binding sites. *Genes Dev* 9(22): 2756-2769.
- Siegel, V., Jongens, T. A., Jan, L. Y. and Jan, Y. N.** (1993). pipsqueak, an early acting member of the posterior group of genes, affects vasa level and germ cell-somatic cell interaction in the developing egg chamber. *Development* 119(4): 1187-1202.
- Siegmund, T. and Lehmann, M.** (2002). The *Drosophila* Pipsqueak protein defines a new family of helix-turn-helix DNA-binding proteins. *Dev Genes Evol* 212(3): 152-157.
- Sinclair, D. A. R., Mottus, R. C. and Grigliatti, T. A.** (1983). Genes which suppress position-effect variegation in *Drosophila melanogaster* are clustered. *Mol Gen Genet* 191: 328-333.
- Soeller, W. C., Oh, C. E. and Kornberg, T. B.** (1993). Isolation of cDNAs encoding the *Drosophila* GAGA transcription factor. *Mol Cell Biol* 13(12): 7961-7970.
- Soeller, W. C., Poole, S. J. and Kornberg, T.** (1988). In vitro transcription of the *Drosophila* engrailed gene. *Genes Dev* 2(1): 68-81.
- Struhl, G.** (1982). Genes controlling segmental specification in the *Drosophila* thorax. *Proc Natl Acad Sci U S A* 79(23): 7380-7384.
- Strutt, H., Cavalli, G. and Paro, R.** (1997). Co-localization of Polycomb protein and GAGA factor on regulatory elements responsible for the maintenance of homeotic gene expression. *Embo J* 16(12): 3621-3632.
- Studier, F. W. and Moffatt, B. A.** (1986). Use of bacteriophage T7 RNA polymerase to direct selective high-level expression of cloned genes. *J Mol Biol* 189(1): 113-130.
- Thummel, C. S.** (2001). Steroid-triggered death by autophagy. *Bioessays* 23(8): 677-682.
- Tillib, S., Petruk, S., Sedkov, Y., Kuzin, A., Fujioka, M., Goto, T. and Mazo, A.** (1999). Trithorax- and Polycomb-group response elements within an Ultrabithorax transcription maintenance unit consist of closely situated but separable sequences. *Mol Cell Biol* 19(7): 5189-5202.
- Towbin, H., Staehelin, T. and Gordon, J.** (1979). Electrophoretic transfer of proteins from polyacrylamide gels to nitrocellulose sheets: procedure and some applications. *Proc Natl Acad Sci U S A* 76(9): 4350-4354.

- Tsukiyama, T., Becker, P. B. and Wu, C.** (1994). ATP-dependent nucleosome disruption at a heat-shock promoter mediated by binding of GAGA transcription factor. *Nature* 367(6463): 525-532.
- Tsukiyama, T., Daniel, C., Tamkun, J. and Wu, C.** (1995). ISWI, a member of the SWI2/SNF2 ATPase family, encodes the 140 kDa subunit of the nucleosome remodeling factor. *Cell* 83(6): 1021-1026.
- Vaquero, A., Espinas, M. L., Azorin, F. and Bernues, J.** (2000). Functional mapping of the GAGA factor assigns its transcriptional activity to the C-terminal glutamine-rich domain. *J Biol Chem* 275(26): 19461-19468.
- Wakimoto, B. T.** (1998). Beyond the nucleosome: epigenetic aspects of position-effect variegation in Drosophila. *Cell* 93(3): 321-324.
- Wallrath, L. L.** (1998). Unfolding the mysteries of heterochromatin. *Curr Opin Genet Dev* 8(2): 147-153.
- Wang, H., Hartswood, E. and Finnegan, D. J.** (1999). Pogo transposase contains a putative helix-turn-helix DNA binding domain that recognises a 12 bp sequence within the terminal inverted repeats. *Nucleic Acids Res* 27(2): 455-461.
- Wang, L., Ding, L., Jones, C. A. and Jones, R. S.** (2002). Drosophila Enhancer of zeste protein interacts with dSAP18. *Gene* 285(1-2): 119-125.
- Weber, U., Siegel, V. and Mlodzik, M.** (1995). pipsqueak encodes a novel nuclear protein required downstream of seven- up for the development of photoreceptors R3 and R4. *Embo J* 14(24): 6247-6257.
- Weiler, K. S. and Wakimoto, B. T.** (1995). Heterochromatin and gene expression in Drosophila. *Annu Rev Genet* 29: 577-605.
- Wilkins, R. C. and Lis, J. T.** (1997). Dynamics of potentiation and activation: GAGA factor and its role in heat shock gene regulation. *Nucleic Acids Res* 25(20): 3963-3968.
- Wilkins, R. C. and Lis, J. T.** (1998). GAGA factor binding to DNA via a single trinucleotide sequence element. *Nucleic Acids Res* 26(11): 2672-2678.
- Wilkins, R. C. and Lis, J. T.** (1999). DNA distortion and multimerization: novel functions of the glutamine- rich domain of GAGA factor. *J Mol Biol* 285(2): 515-525.
- Wohlwill, A. D. and Bonner, J. J.** (1991). Genetic analysis of chromosome region 63 of Drosophila melanogaster. *Genetics* 128(4): 763-775.
- Wolffe, A. P. and Matzke, M. A.** (1999). Epigenetics: regulation through repression. *Science* 286(5439): 481-486.
- Woodard, C. T., Baehrecke, E. H. and Thummel, C. S.** (1994). A molecular mechanism for the stage specificity of the Drosophila prepupal genetic response to ecdysone. *Cell* 79(4): 607-615.
- Woodcock, C. L. and Dimitrov, S.** (2001). Higher-order structure of chromatin and chromosomes. *Curr Opin Genet Dev* 11(2): 130-135.
- Wreggett, K. A., Hill, F., James, P. S., Hutchings, A., Butcher, G. W. and Singh, P. B.** (1994). A mammalian homologue of Drosophila heterochromatin protein 1 (HP1) is a component of constitutive heterochromatin. *Cytogenet Cell Genet* 66(2): 99-103.

- Wu, C. T., Jones, R. S., Lasko, P. F. and Gelbart, W. M. (1989).** Homeosis and the interaction of zeste and white in Drosophila. Mol Gen Genet 218(3): 559-564.
- Wu, C. T. and Morris, J. R. (1999).** Transvection and other homology effects. Curr Opin Genet Dev 9(2): 237-246.
- Wustmann, G., Szidonya, J., Taubert, H. and Reuter, G. (1989).** The genetics of position-effect variegation modifying loci in *Drosophila melanogaster*. Mol Gen Genet 217(2-3): 520-527.
- Xiong, W. C. and Montell, C. (1993).** tramtrack is a transcriptional repressor required for cell fate determination in the *Drosophila* eye. Genes Dev 7(6): 1085-1096.
- Xue, F. and Cooley, L. (1993).** kelch encodes a component of intercellular bridges in *Drosophila* egg chambers. Cell 72(5): 681-693.
- Yang, W. and Steitz, T. A. (1995).** Crystal structure of the site-specific recombinase gamma delta resolvase complexed with a 34 bp cleavage site. Cell 82(2): 193-207.
- Zhang, C. C., Müller, J., Hoch, M., Jackle, H. and Bienz, M. (1991).** Target sequences for hunchback in a control region conferring Ultrabithorax expression boundaries. Development 113(4): 1171-1179.
- Zhang, Y., Iratni, R., Erdjument-Bromage, H., Tempst, P. and Reinberg, D. (1997).** Histone deacetylases and SAP18, a novel polypeptide, are components of a human Sin3 complex. Cell 89(3): 357-364.
- Zollman, S., Godt, D., Prive, G. G., Couderc, J. L. and Laski, F. A. (1994).** The BTB domain, found primarily in zinc finger proteins, defines an evolutionarily conserved family that includes several developmentally regulated genes in *Drosophila*. Proc Natl Acad Sci U S A 91(22): 10717-10721.