

RICHARD STEVEN MANN, PHD

Department of Biochemistry and Molecular Biophysics (primary appointment)
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PERSONAL

Born: Boston, MA, USA
Citizenship: USA

RESEARCH FOCUS

Molecular genetics of *Drosophila* development, gene regulation, Hox genes, motor neuron development and function, locomotion.

EDUCATION

1976 - 1980; Cornell University; Ithaca, New York, B.Sc. 1980.
1980 - 1986; Massachusetts Institute of Technology; Ph.D., 1986, Thesis Advisor: David Baltimore.
1986 - 1990; Stanford University, Postdoctoral Fellow; Advisor: David Hogness

RESEARCH TRAINING

1978 - 1980; Undergraduate research scientist, Cornell University; Advisor: Gerald R. Fink; Studies on frameshift suppression in the yeast, *Saccharomyces cerevisiae*.
1980 - 1986; Ph.D. student, Massachusetts Institute of Technology; Advisor: David Baltimore; Studies on encapsidation and splicing in the retrovirus, Moloney Murine Leukemia Virus.
1986 - 1990; Postdoctoral fellow, Stanford University Medical Center; Advisor: David S. Hogness; The role of homeotic proteins in the development of the fruit fly, *Drosophila melanogaster*.

ACADEMIC APPOINTMENTS

1990 – 1997; Assistant Professor, Columbia University College of Physicians and Surgeons, Department of Biochemistry and Molecular Biophysics.
1994 – present; Member, Center for Neurobiology and Behavior, Columbia University College of Physicians and Surgeons.
1997 – 2000; Associate Professor, Columbia University College of Physicians and Surgeons, Department of Biochemistry and Molecular Biophysics.
2000 – present; Professor, Columbia University College of Physicians and Surgeons, Department of Biochemistry and Molecular Biophysics.
2010 – present; Higgins Professor, Columbia University Medical School, Department of Biochemistry and Molecular Biophysics.
2015 – present; Higgins Professor, Columbia University Medical School, Department of Systems Biology
2015 – present; Member, Zuckerman Mind Brain Behavior Institute, Columbia University

SOCIETY MEMBERSHIPS

Genetics Society of America, Society for Developmental Biology, Society for Neuroscience

HONORS, AWARDS, PROFESSIONAL ACTIVITIES

2015, 2016 Visitor Program at Janelia Research Campus/HHMI hosted by Barry Dickson
2015 Workshop; Alan Alda Center for Communicating Science
2014 Dean's Lecturer in Basic Science, Columbia University
2013 Co-organizer, National Drosophila meeting (GSA)
2013 NYU/Skirball review
2010 Named Higgins Professor of Biochemistry and Molecular Biophysics, Columbia University
2008 Member (ad hoc), HHMI Investigator Review Panel
2007 to 2009 Chair, Dev-2 Study Section, NIH
2006 Member, Editorial Board *Genes & Development* (started 01/01/06)
2006 Plenary speaker at National Drosophila meeting (GSA) (04/06)
2005 to 2009 Member, Dev-2 Study Section, NIH
1997; Scholar of the Leukemia Society of America (now The Leukemia & Lymphoma Society).
1997; The Doctor Harold and Golden Lamport Award for Excellence in Basic Science Research.
1991; Searle Scholars Program.
1991; Irma T. Hirschl Career Scientist Award.
1986; A Society for Developmental Biology Fellow of the Life Sciences Research Foundation
1979 and 1980; Honors Program, Cornell University.
1975; International Exchange Student Scholarship to India
1974 and 1975; National Honors Society.

TEACHING

Courses at Columbia University (last five years):

1994 – present; Advanced Topics in Eukaryotic Genetics.
1999 – present; Principles of Developmental Biology
2000 – 2007; Co-director of Biochemistry and Molecular Biology of Eukaryotes.
2008 – 2013; Biochemistry and Molecular Biology of Eukaryotes.
2011 – present; Molecular Genetics.

LABORATORY PERSONNEL:

Current: Five Ph.D. students, six postdoctoral fellows, one full time technician, part time support staff.
Alumni: Fifteen Ph.D. students, ten postdoctoral fellows.

INVITED SPEAKING ENGAGEMENTS (since 2010):

Visual Systems Gordon Conference, Il Ciocco, Italy 2010
Weizmann Institute, Israel, 2010
Columbia Stem Cell retreat, 2011
Blaffer Seminar, MD Anderson Cancer Center, 2011
Princeton University, 2011
Society of Integrative and Comparative Biology, Locomotion Symposium, 2012
University of Southern California, 2012
FASEB meeting, Snowmass, CO on Transcription and Development, 2012
University of Southern California, 2012

Max Planck Institute for Immunology and Epigenetics, Freiburg, 2012
CBM Severo Ochoa, Madrid, 2012
NYU Abu Dhabi, 2013
Technion, Israel, 2013
Einstein College of Medicine retreat, Keynote Speaker, 2013
University of Michigan, 2014
University of Indiana, Bloomington, 2014
University of Wisconsin, Madison, 2014
University of British Columbia, Vancouver 2014
European Drosophila Conference, Heidelberg, 2015
University of Oregon, 2016
SUNY Buffalo, 2017
NIH, 2017
Stowers Institute, 2017
Janelia Research Center, 2017
University of Wisconsin, Madison, 2017
University of Oxford, 2017
University of Toronto, 2017
NYU Abu Dhabi, 2017

EXTERNAL REFEREE:

NIGMS MIRA Grant Review, 2016
Ikerbasque Reviewer 2008-present
Member (ad hoc) HHMI Investigator Review Committee, 2008
Leukemia and Lymphoma Society Grant Review Panel, 2008-present
Member and Chair, DEV-2 Study Section, NIH 2004-2009
Editorial Board Member, *BMC Developmental Biology*, 2002-present; *Genes & Development*, 2006-present; *Fly* 2008-present.
Referee (ad hoc), National Science Foundation, 1992-present.
Member (ad hoc), NIH study sections (1998-present).
Referee for *Cell*, *Molecular Cell*, *Developmental Cell*, *Science*, *Nature*, *Development*, *Genes & Development*, *Genetics*; *Mol. Cell. Biol.*, *TiBS*, *Biochemistry*, *EMBO J.*, *Mech. of Development*, *Developmental Biology*, *PLoS Biology*, *PLoS Genetics*.

CURRENT PROJECTS

NIH 1R35GM118336

04/01/2016 to 03/31/2021

PI: Richard S. Mann

Interpreting and Deploying Genomic Information During Animal Development

This R35 grant fused two active RO1s: GM058575-17 and GM054510-24

NIH 5R01NS070644

04/01/2010 to 03/31/2020

PI: Richard S. Mann

Development and function of an adult locomotion circuit in *Drosophila*

This project aims to study the development of the motor neurons that innervate the adult *Drosophila* legs.

NIH U19NS104655

09/01/2018 to 08/31/2022

PI: Dickinson, M.H.

Integrative Functional Mapping of Sensory-Motor Pathways

The overall goal of this BRAIN Initiative grant is to use a wide range of methods to how the fly translates sensory input into motor output. The Mann lab will identify and analyze neural activities within the motor circuit used for walking.

RECENTLY COMPLETED PROJECTS

NIH R21NS088446-02

07/01/2014 to 06/30/2016

PI: Mann, R.S.

NIH/NINDS

Genetic dissection of locomotion

The goals of this R21 proposal are to execute a genetic screen to identify neurons required for coordinated locomotion in the fruit fly.

NIH U01NS090514-02

09/01/2014 to 08/31/2017

PI: Dickinson, M.H.

Integrative Functional Mapping of Sensory-Motor Pathways

The overall goal of this BRAIN initiative grant is to use a wide range of methods to analyze motor and brain neural activity in response to a defined set of sensory stimuli. The Mann lab will analyze neural activities within the motor circuit used for walking.

Ellison Medical Foundation

10/15/2012 to 10/14/2017

PI: Richard S. Mann

The decline of motor coordination during aging

This project aims to study the morphological, behavioral, and physiological decline in motor coordination in aging *Drosophila*.

PUBLICATIONS (COMPLETE NCBI LIST [HERE](#)):

1. Cummins, C., R. Gaber, M. Culbertson, R. S. Mann and G. Fink. (1980) Frameshift Suppression in *Saccharomyces cerevisiae* III. Isolation and Genetic Properties of Group III suppressers. *Genetics* 95, 855-879.
2. Mann, R. S., R. Mulligan and D. Baltimore. (1983) Construction of a Retrovirus Packaging Mutant and Its Use to Produce Helper-Free Defective Retrovirus. *Cell* 33, 153-159.
3. Mann, R. S. and D. Baltimore. (1985) *Journal of Virology*. Varying the Position of a Retroviral Packaging Sequence Results in the Encapsidation of Both Unspliced and Spliced RNAs. 54, 401-407.
4. Mann, R. S. and D. Hogness. (1990) Functional Dissection of Ultrabithorax Proteins in *Drosophila melanogaster*. *Cell* 60, 597-610.
5. Irvine, K. D., J. Botas, S. Jha, R. S. Mann, and D. S. Hogness. (1993) Negative Autoregulation by *Ultrabithorax* Controls the Level and Pattern of its Expression. *Development* 117, 387-399.
6. Chan, S.-K. and R. S. Mann. (1993) The segment identity functions of Ultrabithorax are contained within its homeo domain and carboxy-terminal sequences. *Genes & Development* 7, 796-811.
7. Chan, S.-K., L. Jaffe, M. Capovilla, J. Botas, and R. S. Mann. (1994) The DNA Binding Specificity of Ultrabithorax is Modulated by Cooperative Interactions with Extradenticle, Another Homeoprotein. *Cell* 78, 603-615.
8. Mann, R.S.. (1994) *engrailed*-mediated repression of *Ultrabithorax* is necessary for the parasegment 6 identity in *Drosophila*. *Development*, 120, 3205-3212.

9. Feinstein, P., K. Kornfeld, D. Hogness, and R. S. Mann. (1995) Identification of Homeotic Target Genes in *Drosophila melanogaster* Including *nervy*, a Proto-Oncogene Homologue. *Genetics* 140, 573-586.
10. Pöpperl, H., M. Bienz, M. Studer, S.-K. Chan, S. Aparicio, S. Brenner, R.S. Mann and R. Krumlauf. (1995) Segmental Expression of *Hoxb-1* Is Controlled by a Highly Conserved Autoregulatory Loop Dependent upon *exd/pbx*. *Cell* 81, 1031-1042.
11. Mann, R.S. (1995) The specificity of homeotic gene function. *BioEssays* 17, 855-863.
12. Chan, S.-K., H. Pöpperl, R. Krumlauf and R.S. Mann. (1996) An extradenticle-induced conformational change in a HOX protein overcomes an inhibitory function of the conserved hexapeptide motif. *EMBO J.* 15, 2476-2487.
13. Mann, R.S. and S.-K. Chan. (1996) Extra specificity from *extradenticle*: The partnership between HOX and PBX/EXD homeodomain proteins. (invited review) *Trends Genet.* 12, 258-262.
14. Chan, S.-K. and R.S. Mann. (1996) A structural model of an Extradenticle-HOX-DNA complex accounts for the choice of HOX protein in the heterodimer. *Proc. Natl. Acad. Sci. USA.* 93, 5223-5228.
15. Mann, R.S. (1996) Flies in Crete: a report on the 10th annual EMBO Workshop on the Molecular and Developmental Biology of *Drosophila*. *Trends Genet.* (invited meeting review) 12, 427-428..
16. Mann, R.S. and M. Abu-Shaar. (1996) Nuclear import of the homeobox protein extradenticle induced by *wg* and *dpp* signaling. *Nature*, 383, 630-633.
17. Chan, S.-K., H.-D. Ryoo, A. Gould, R. Krumlauf, and R.S. Mann. (1997) Switching the *in vivo* specificity of a minimal HOX-responsive element. *Development*, 124,2007-2014.
18. Jaffe, L., H.-D. Ryoo, and R.S. Mann. (1997) A role for phosphorylation by casein kinase II in modulating Antennapedia function in *Drosophila*. *Genes Dev.*, 11, 1327-1340.
19. Maconochie, M. K., S. Nonchev, H. Pöpperl, M.H. Sham, S.-K. Chan, R.S. Mann and R. Krumlauf. (1997) Cross-regulation in the mouse *HoxB* complex: *Hoxb-1* regulates the expression of *Hoxb-2* in rhombomere 4. *Genes Dev.* 11, 1885-1895.
20. Mann, R.S. (1997) Why are *Hox* genes clustered? *BioEssays* 19, 661-664.
21. Rieckhof, G., F. Casares, H.D. Ryoo, M. Abu-Shaar and R.S. Mann. (1997) Nuclear localization of Extradenticle requires *homothorax*, which encodes an Extradenticle-related homeodomain protein. *Cell* 91, 171-183.
22. Grieder, N., T. Marty, H.-D. Ryoo, R.S. Mann, and M. Affolter (1997) Synergistic activation of a *Drosophila* enhancer by HOM/EXD and DPP signaling. *EMBO J.*, 16, 7402-7410.
23. Casares, F. and R.S. Mann (1998) Control of antennal versus leg development in *Drosophila*. *Nature*, 392, 723-726.
24. Gonzalez-Crespo, S., M. Abu-Shaar, M. Torres, C. Martínez-A, R. S. Mann and Ginés Morata (1998) Antagonistic interactions between *extradenticle* function and Hedgehog signalling in the developing limb. *Nature*, 394, 196-200.
25. Mann, R. S. and M. Affolter (1998) Hox proteins meet more partners. (invited review) *Curr. Op. Genet. Dev.*, 8, 423-429.
26. Abu-Shaar, M. and R. S. Mann (1998) Generation of multiple antagonistic domains along the proximo-distal axis during *Drosophila* leg development. *Development*, 125, 3821-3830.

27. Passner, J., H.D. Ryoo, L. Shen, R.S. Mann, and A. Aggarwal (1999) Structure of a DNA-bound Ultrabithorax-Extradenticle homeodomain complex. *Nature*, 397:714-719.
28. Abu-Shaar, M., H.D. Ryoo, and R.S. Mann (1999) Control of the nuclear localization of Extradenticle by competing nuclear localization and export signals. *Genes Dev.*, 13: 935-945.
29. Ryoo, H.D. and R.S. Mann (1999) The control of trunk Hox specificity and activity by Extradenticle. *Genes Dev.*, 13:1704-1716.
30. Ryoo, H.D., Marty, T., Affolter, M., and R.S. Mann (1999) Control of Hox target genes by a DNA bound Hox/Extradenticle/Homothorax complex. *Development*, 126:5137-48.
31. Mann, R.S. and G. Morata (2000). The developmental and molecular biology of genes that subdivide the body of *Drosophila*. *Annual Review of Cell and Developmental Biology* (invited review), 16:243-271.
32. Casares, F. and R.S. Mann (2000). Dual role for *homothorax* in inhibiting wing blade development and specifying proximal wing structures in *Drosophila*. *Development*, 127:1499-1508.
33. Affolter, M. and R.S. Mann (2001). Development: legs, eyes, or wings – selectors and signals make the difference. *Science (Perspective)*, 292:1080-1081.
34. Casares, F. and R.S. Mann (2001). The ground state of the ventral appendage in *Drosophila*. *Science*, 293:1477-1480.
35. Mann R.S. and F. Casares (2002) Developmental biology: Signalling legacies. *Nature* 418:737-739.
36. Bessa J, B. Gebelein, F. Pichaud, F. Casares, and R.S. Mann (2002) Combinatorial control of *Drosophila* eye development by *Eyeless*, *Homothorax*, and *Teashirt*. *Genes Dev.* 16:2415-2427.
37. Mann, R.S. and S.B. Carroll (2002) Molecular mechanisms of selector gene function and evolution. *Curr. Op. Genet. Dev.* In press.
38. Gebelein, B., H.D. Ryoo, W. Zhang, and R.S. Mann (2002) Specificity of *Distalless* repression and limb primordia development by abdominal Hox proteins. *Dev. Cell*, 3:487-98.
39. Kobayashi M, Fujioka M, Tolkunova EN, Deka D, Abu-Shaar M, Mann RS, Jaynes JB. (2003) *Engrailed* cooperates with *extradenticle* and *homothorax* to repress target genes in *Drosophila*. *Development*. 2003 130:741-51.
40. Culi, J. and R.S. Mann (2003) Boca, an endoplasmic reticulum protein required for wingless signaling and trafficking of LDL receptor family members in *Drosophila*. *Cell*. 112:343-54.
41. Sosinsky A., Bonin K., Mann R.S., Honig B. (2003) Target Explorer: an automated tool for the identification of new target genes for a specified set of transcription factors. *NAR*, 31:3589-92.
42. Wang, Z. and R.S. Mann (2003) Requirement for two nearly identical TGIF-related homeobox genes in *Drosophila* spermatogenesis. *Development*, 130:2853-2865
43. Mann, R.S. (2004) Two Pax are better than one. *Nat. Genet.* 36:10-11.
44. Bonin, K and R.S. Mann (2004) A piggyBac Transposon Gene Trap for the Analysis of Gene Expression and Function in *Drosophila*. *Genetics* 167:1801-1811.

45. Mann, RS (2004) Two Pax are better than one. *Nat Genet.* 2004 Jan;36(1):10-1
46. Gebelein, B. D. McKay and R.S. Mann (2004) Direct integration of Hox and segmentation gene inputs in *Drosophila* development. *Nature (Article)* 431:653-659
47. Zirin, JD and R.S. Mann (2004) Differing strategies for the establishment and maintenance of teashirt and homothorax repression in the *Drosophila* wing. *Development* 131: 5683-5693
48. Wildonger J. and Mann RS. (2005) The t(8;21) translocation converts AML1 into a constitutive transcriptional repressor. *Development*;132:2263-72.
49. Mann, RS and J. Culi (2005) Developmental biology: morphogens hitch a greasy ride. *Nature* 435:30-33.
50. Wildonger J. and Mann RS. (2005) Evidence that nervy, the *Drosophila* homolog of ETO/MTG8, promotes mechanosensory organ development by enhancing Notch signaling. *Dev Biol.* 2005;286:507-20.
51. Wildonger, J., A. Sosinsky, B. Honig, and R. S. Mann (2005) Lozenge directly activates *argos* and *klumpfuss* to regulate programmed cell death. *Genes & Dev.*, 19:1034-9.
52. Ice, R., Wildonger, J., R.S.Mann, and S. Hiebert (2005) Comment on "Nervy Links Protein Kinase A to Plexin-Mediated Semaphorin Repulsion". *Science*, 309:558B.
53. Culi, J., Aroca, P., Modolell, J. and R.S.Mann (2006) *jing* is required for wing development and to establish the proximo-distal axis of the leg in *Drosophila melanogaster*. *Genetics* 173:255-266.
54. Noro, B. Culi, J., McKay, DJ, Zhang, W. and R.S. Mann (2006) Distinct functions of homeodomain-containing and homeodomain-less isoforms encoded by *homothorax*. *Genes Development.* 20:1636-1650.
55. Crickmore, MA and R.S. Mann (2006) Hox Control of Organ Size by Regulation of Morphogen Production and Mobility. *Science (Article)*, 313(5783):63-8.
56. Crickmore MA, Mann RS. (2006) Hox control of morphogen mobility and organ development through regulation of glypican expression. *Development.* 2007 Jan;134(2):327-34.
57. Sosinsky, A., Honig, B., Mann, R.S., and Califano, A. (2007) Discovering transcriptional regulatory regions in *Drosophila* by a nonalignment method for phylogenetic footprinting. *Proc Natl Acad Sci U S A.* 104(15): p. 6305-10.
58. Stevens, K.E. and Mann, R.S. A balance between two nuclear localization sequences and a nuclear export sequence governs extradenticle subcellular localization. *Genetics*, 2007. 175(4): p. 1625-36.
59. Zirin, J.D. and Mann, R.S. Nubbin and Teashirt mark barriers to clonal growth along the proximal-distal axis of the *Drosophila* wing. (2007) *Dev Biol.*, 304(2): p. 745-58.
60. Gebelein, B. and Mann, RS. Compartmental modulation of abdominal Hox expression by engrailed and sloppy-paired patterns the fly ectoderm. *Dev. Biol.* 2007. 308:593-605.
61. Joshi, R. Passner, J., Rohs, R., Jain, R. Sosinsky, A., Crickmore, M.A., Jacob, V., Aggarwal, A.K., Honig, B. and Mann, RS. (2007) Functional specificity of a Hox protein mediated by the recognition of minor groove structure. *Cell.* 131(3):530-43.
62. Estella, C., McKay, D., and Mann, R.S. (2008) Direct integrations of Wingless, Decapentaplegic, and autoregulatory inputs into *Distalless* during *Drosophila* leg development. *Dev. Cell*, 14:86-96.

63. Estella, C. and Mann, R.S. Logic of Wg and Dpp induction of distal and medial fates in the *Drosophila* leg. *Development*, (2008), 135:627-636.
64. Affolter, M., Slattery, M., and Mann, R.S. (2008) A lexicon for homeodomain-DNA recognition. *Cell* 133:1133-1135.
65. Crickmore, MA and Mann, R.S. (2008) The control of size in animals: insights from selector genes. *Bioessays*, 30:843-853.
66. McKay, D., Estella, C. and Mann R.S. (2009) The origins of the *Drosophila* leg as revealed by the *cis*-regulatory architecture of the *Distalless* gene. *Development*. Jan;136(1):61-71.
67. Peng, W., Slattery, M. and Mann RS. (2009) Transcription factor choice in the Hippo signaling pathway: *homothorax* and *yorkie* regulation of the microRNA *bantam* in the progenitor domain of the *Drosophila* eye imaginal disc. *Genes Dev* 23(19):2307-19.
68. Rohs, R., West, S., Sosinsky, A., Liu, P. Mann, RS, and Honig, B. (2009) The role of DNA shape in protein-DNA recognition. *Nature* (article) 461(7268):1248-53.
69. Baek M, Mann RS. (2009) Lineage and birth date specify motor neuron targeting and dendritic architecture in adult *Drosophila*. *J Neurosci*. May 27;29(21):6904-16.
70. Crickmore, MA, Ranade, V. and Mann RS. (2009) Regulation of *Ubx* expression by epigenetic silencing in response to *Ubx* levels and genetic variation. *PLoS Genetics* 5: e1000633.
71. Mann RS, Lelli KM, Joshi R. (2009) Hox specificity: unique roles for cofactors and collaborators. *Curr Top Dev Biol.*;88:63-101.
72. West SM, Rohs R, Mann RS, Honig B. (2010) Electrostatic interactions between arginines and the minor groove in the nucleosome. *J Biomol Struct Dyn*. Jun;27(6):861-6.
73. Rohs, R., Jin, X., West, S. Joshi, R., Honig, B. and Mann, RS. (2010) Origins of Specificity in Protein-DNA Recognition. *Annual Review of Biochemistry*, Volume 79:233-269.
74. Crickmore, MA. and Mann, RS. (2010) A new chisel for sculpting Darwin's endless forms. *Nat Cell Biol*. Jun;12(6):528-9.
75. Estella, C. and Mann, R.S. (2010) Non-redundant selector and growth-promoting functions of two sister genes, *buttonhead* and *Sp1*, in *Drosophila* leg development. *PLoS Genet*. Jun 24;6(6):e1001001; PMID: PMC2891808
76. Joshi, R., Sun, L. and Mann, RS. (2010) Dissecting the functional specificities of two Hox proteins. *Genes Dev.*:24(14); 1533-1545.
77. Slattery, M. N gre, N. Ma, L., White, KP, and Mann, RS. (2011) Genome-wide tissue-specific occupancy of the Hox protein *Ultrabithorax* and Hox cofactor *Homothorax* in *Drosophila*. *PLoS ONE*: 6(4): e14686. doi:10.1371/journal.pone.0014686.
78. Giorgianni, M. and Mann, RS. (2011) Establishment of medial fates along the proximodistal axis of the *Drosophila* leg through direct activation of *dachshund* by *Distalless*. *Developmental Cell*: 20(4):455-68; PMID: PMC3087180.
79. Bishop EP, Rohs R, Parker SC, West SM, Liu P, Mann RS, Honig B, Tullius TD. (2011) A map of minor groove shape and electrostatic potential from hydroxyl radical cleavage patterns of DNA. *ACS Chem Biol*. Dec 16;6(12):1314-20. PMID:21967305.
80. Noro B, Lelli K, Sun L, Mann RS. Competition for cofactor-dependent DNA binding underlies Hox phenotypic suppression. *Genes Dev*. 2011 Nov 15;25(22):2327-32. PMID:22085961

81. Slattery M, Riley T, Liu P, Abe N, Gomez-Alcala P, Dror I, Zhou T, Rohs R, Honig B, Bussemaker HJ, Mann RS. (2011) Cofactor binding evokes latent differences in DNA binding specificity between Hox proteins. *Cell*. Dec 9;147(6):1270-82. PMID:22153072.
82. Lelli KM, Noro B, Mann RS. (2011) Variable motif utilization in homeotic selector (Hox)-cofactor complex formation controls specificity. *Proc Natl Acad Sci U S A*.;108(52):21122-7. PMID:22160705
83. Estella C, Voutev R, Mann RS. (2012) A dynamic network of morphogens and transcription factors patterns the fly leg. *Curr Top Dev Biol*.;98:173-98. PMID: 22305163.
84. Agelopoulos M, McKay DJ, Mann RS. (2012) Developmental regulation of chromatin conformation by Hox proteins in Drosophila. *Cell Rep*. Apr 19;1(4):350-9. PMID: 22523743
85. Fujioka M, Gebelein B, Cofer ZC, Mann RS, Jaynes JB. (2012) Engrailed cooperates directly with Extradenticle and Homothorax on a distinct class of homeodomain binding sites to repress sloppy paired. *Dev Biol*. Jun 15;366(2):382-92. PMID: 22537495.
86. Lelli KM, Slattery M, Mann RS. (2012) Disentangling the Many Layers of Eukaryotic Transcriptional Regulation. *Annu Rev Genet*. Aug 28. PMID: 22934649.
87. Jory A, Estella C, Giorgianni MW, Slattery M, Lavery TR, Rubin GM, Mann RS. (2012) A Survey of 6,300 Genomic Fragments for cis-Regulatory Activity in the Imaginal Discs of Drosophila Melanogaster. *Cell Rep*. Oct 11. pii: S2211-1247(12)00291-4. PMID: 23063361.
88. Nagaraj R, Gurujaja-Rao S, Jones KT, Slattery M, Negre N, Braas D, Christofk H, White KP, Mann RS, Banerjee U. (2011) Control of mitochondrial structure and function by the Yorkie/YAP oncogenic pathway. *Genes Dev*. 2012 Sep 15;26(18):2027-37. PMID: 22925885.
89. Slattery M, Voutev R., Ma L., Negre N. White KP, Mann RS (2013) Divergent transcriptional regulatory logic at the intersection of tissue growth and developmental patterning. *PLoS Genet*. Sep;9(9):e1003753. PMID: 24039600
90. Mendes CS, Bartos I, Akay T, Márka S, Mann RS. (2013) Quantification of gait parameters in freely walking wild type and sensory deprived Drosophila melanogaster. *Elife*.;2:e00231. PMID: 23326642.
91. Baek M, Enriquez J. Mann RS. (2013) Dual role for Hox genes and Hox co-factors in conferring leg motoneuron survival and identity in Drosophila. *Development*. May;140(9):2027-38. PMID:23395637.
92. Doitsidou M, Flames N, Topalidou I, Abe N, Felton T, Remesal L, Popovitchenko T, Mann R, Chalfie M, Hobert O. (2013) A combinatorial regulatory signature controls terminal differentiation of the dopaminergic nervous system in C. elegans. *Genes Dev*. 2013 Jun 15;27(12):1391-405. PMID:23788625.
93. Oh H, Slattery M, Ma L, Crofts A, White KP, Mann RS, Irvine KD. (2013) Genome-wide association of Yorkie with chromatin and chromatin-remodeling complexes. *Cell Rep*. Feb 21;3(2):309-18. PMID: 23395637.
94. Zhang F, Bhattacharya A, Nelson JC, Abe N, Gordon P, Lloret-Fernandez C, Maicas M, Flames N, Mann RS, Colon-Ramos DA, Hobert O. (2014) The LIM and POU homeobox genes *ttx-3* and *unc-86* act as terminal selectors in distinct cholinergic and serotonergic neuron types. *Development*, 141(2):422-35. PMID: 24353061

95. Shazman S, Lee H, Socol Y, Mann RS, Honig B (2014) [OnTheFly: a Database of *Drosophila melanogaster* Transcription factors and their Binding Sites](#). *Nuc. Acid. Res.*, Jan;42(Database issue):D167-71. PMID: 24271386
96. Mann, R.S. (2014) The Michael Jackson Fly. *Science*. 2014 Apr 4;344(6179):48-9. doi: 10.1126/science.1252431. PMID: 24700848.
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