

# Bibliography Current World Literature

This bibliography is compiled by geneticists from the journals listed at the end of this publication. It is based on literature entered into our database between 1st April 1995 and 30th March 1996 (articles are generally added to the database about two and a half months after publication). In addition, the bibliography contains every paper annotated by reviewers; these references were obtained from a variety of bibliographic databases and published between the beginning of the review period and the time of going to press. The bibliography has been grouped into topics that relate to the reviews in this issue.

- Papers considered by the reviewers to be of special interest
- Papers considered by the reviewers to be of outstanding interest

The number in square brackets following a selected paper, e.g. [7], refers to its number in the annotated references of the corresponding review.

## Current Opinion in Genetics & Development

1996, 6:509-522

© Current Biology Ltd ISSN 0959-437X

## Contents

### Pattern formation and developmental mechanisms

- 509 Sex determination, gametogenesis and early embryonic development

- 512 Maternal effects, imprinting and axis determination
- 512 Gene regulation and expression in development
- 513 Evolution and development
- 514 Organogenesis
- 516 Cell interactions: movement, signalling, lineages, cycling and death
- 520 Neurogenesis and the neural system
- 521 Pattern formation and development in plants
- 522 Theoretical aspects of development

## Pattern formation and developmental mechanisms

### Sex determination, gametogenesis and early embryonic development

Related review: RNA localization and the development of asymmetry during *Drosophila* oogenesis (pp 395-402)

- Acampora D, Mazan S, Lallemand Y, Avantaggiato V, Maury M, Simeone A, Brulet P: **Forebrain and midbrain regions are deleted in *Otx2*(-/-) mutants due to a defective anterior neuroectoderm specification during gastrulation.** *Development* 1995, 121:3279-3290.
- Aitken RJ: **The complexities of conception.** *Science* 1995, 269:39-40.
- Aitken RJ, Irvine DS: **Reproductive biology - Fertilization without sperm.** *Nature* 1996, 379:493.
- Alkema MJ, Vanderlugt NMT, Bobeldijk RC, Berns A, Vanlohuizen M: **Transformation of axial skeleton due to overexpression of *bmi-1* in transgenic mice.** *Nature* 1995, 374:724-727.
- Appel B, Korzh V, Glasgow E, Thor S, Edlund T, Dawid IB, Eisen JS: **Motoneuron fate specification revealed by patterned LIM homeobox gene expression in embryonic zebrafish.** *Development* 1995, 121:4117-4125.
- Averof M, Akam M: **Hox genes and the diversification of insect and crustacean body plans.** *Nature* 1995, 376:420-423.
- Ayabe T, Kopf GS, Schultz RM: **Regulation of mouse egg activation: Presence of ryanodine receptors and effects of microinjected ryanodine and cyclic ADP ribose on unispermated and inseminated eggs.** *Development* 1995, 121:2233-2244.
- Barbash DA, Cline TW: **Genetic and molecular analysis of the autosomal component of the primary sex determination signal of *Drosophila melanogaster*.** *Genetics* 1995, 141:1451-1471.
- Bashaw GJ, Baker BS: **The *msl-2* dosage compensation gene of *Drosophila* encodes a putative DNA-binding protein whose expression is sex specifically regulated by *Sex-lethal*.** *Development* 1995, 121:3245-3258.
- Beg AA, Sha WC, Bronson RT, Ghosh S, Baltimore D: **Embryonic lethality and liver degeneration in mice lacking the RelA component of NF-kappa B.** *Nature* 1995, 376:167-170.
- Bladt F, Riethmacher D, Isenmann S, Aguzzi A, Birchmeier C: **Essential role for the c-met receptor in the**

- migration of myogenic precursor cells into the limb bud. *Nature* 1995, 376:768-771.
- Blitz IL, Cho KKY: **Anterior neuroectoderm is progressively induced during gastrulation: The role of the *Xenopus* homeobox gene orthodenticle.** *Development* 1995, 121:993-1004.
- Bloom T: **Patterning the *Drosophila* embryo.** *Curr Biol* 1996, 6:6-8.
- Bookbinder LH, Cheng A, Bleil JD: **Tissue- and species-specific expression of *sp56*, a mouse sperm fertilization protein.** *Science* 1995, 269:86-89.
- Borkowski OMD, Brown NH, Bate M: **Anterior-posterior subdivision and the diversification of the mesoderm in *Drosophila*.** *Development* 1995, 121:4183-4193.
- Brown NL, Sattler CA, Paddock SW, Carroll SB: **Hairy and emc negatively regulate morphogenetic furrow progression in the *Drosophila* eye.** *Cell* 1995, 80:879-887.
- Burke AC, Nelson CE, Morgan BA, Tabin C: **Hox genes and the evolution of vertebrate axial morphology.** *Development* 1995, 121:333-346.
- Burks DJ, Carballada R, Moore HDM, Saling PM: **Interaction of a tyrosine kinase from human sperm with the zona pellucida at fertilization.** *Science* 1995, 269:83-86.
- Bycroft M, Grünert S, Murzin AG, Proctor M, St Johnston D: **NMR solution structure of a dsRNA binding domain from *Drosophila* staufen protein reveals homology to the N-terminal domain of ribosomal protein S5.** *EMBO J* 1995, 14:3563-3571. [54].
- Bykov AG, Andersen CY, Nordholm L, Thøgersen H, Xia GL, Wassmann O, Andersen JV, Guddal E, Roed T: **Chemical structure of sterols that activate oocyte meiosis.** *Nature* 1995, 374:559-562.
- Carroll SB: **Homeotic genes and the evolution of arthropods and chordates.** *Nature* 1995, 376:479-485.
- Carroll SB, Weatherbee SD, Langeland JA: **Homeotic genes and the regulation and evolution of insect wing number.** *Nature* 1995, 375:58-61.
- Casares F, Sanchezherrero E: **Regulation of the infraabdominal regions of the bithorax complex of *Drosophila* by gap genes.** *Development* 1995, 121:1855-1866.
- Chanut F, Heberlein U: **Role of the morphogenetic furrow in establishing polarity in the *Drosophila* eye.** *Development* 1995, 121:4085-4094.
- Charlesworth B: **The evolution of chromosomal sex determination and dosage compensation.** *Curr Biol* 1996, 6:149-162.
- Chase BA, Baker BS: **A genetic analysis of intersex, a gene regulating sexual differentiation in *Drosophila melanogaster* females.** *Genetics* 1995, 139:1649-1661.
- Chen JY, Edgecombe GD, Ramskold L, Zhou GQ: **Head segmentation in Early Cambrian Fuxianhuia: Implications for arthropod evolution.** *Science* 1995, 268:1339-1343.
- Chisholm AD, Horvitz HR: **Patterning of the *Caenorhabditis elegans* head region by the Pax-6 family member *vab-3*.** *Nature* 1995, 377:52-55.
- Cooke J: **Vertebrate embryo handedness [Letter].** *Nature* 1995, 374:681.
- Copeland JWR, Nasiadka A, Dietrich BH, Krause HM: **Patterning of the *Drosophila* embryo by a homeodomain-deleted Ftz polypeptide.** *Nature* 1996, 379:162-165.
- Cree A, Thompson MB, Daugherty CH: **Tuatara sex determination [Letter].** *Nature* 1995, 375:543.
- Crossley PH, Minowada G, Macarthur CA, Martin GR: **Roles for FGF8 in the induction, initiation, and maintenance of chick limb development.** *Cell* 1996, 84:127-136.
- Curtis D, Aepfel J, Lehmann R: **Nanos is an evolutionarily conserved organizer of anterior-posterior polarity.** *Development* 1995, 121:1899-1910.
- Dai JW, Sheetz MP: **Axon membrane flows from the growth cone to the cell body.** *Cell* 1995, 83:693-701.
- Davis AP, Witte DP, Hsieh HM, Potter SS, Capecchi MR: **Absence of radius and ulna in mice lacking *hoxa-11* and *hoxd-11*.** *Nature* 1995, 375:791-795.
- Derobertis EM: **Developmental biology - Dismantling the organizer.** *Nature* 1995, 374:407-408.
- Devore DL, Horvitz HR, Stern MJ: **An FGF receptor signaling pathway is required for the normal cell migrations of the sex myoblasts in *C. elegans* hermaphrodites.** *Cell* 1995, 83:611-620.
- Doniach T: **Basic FGF as an inducer of anteroposterior neural pattern.** *Cell* 1995, 83:1067-1070.
- Eaton S, Simons K: **Apical, basal, and lateral cues for epithelial polarization.** *Cell* 1995, 82:5-8.
- Emmons S, Phan H, Calley J, Chen W, James B, Manseau L: ***cappuccino*, a *Drosophila* maternal effect gene required for polarity of the egg and embryo, is related to the vertebrate limb deformity locus.** *Genes Dev* 1995, 9:2482-2494. [47].
- Erdelyi M, Michon AM, Guichet A, Glotzer JB, Ephrussi A: **Requirement for *Drosophila* cytoplasmic tropomyosin in *oskar* mRNA localization.** *Nature* 1995, 377:524-527. [45].
- Etemadmoghadam B, Guo S, Kempthorne KJ: **Asymmetrically distributed PAR-3 protein contributes to cell polarity and spindle alignment in early *C. elegans* embryos.** *Cell* 1995, 83:743-752.
- Faust C, Schumacher A, Holdener B, Magnuson T: **The *eed* mutation disrupts anterior mesoderm production in mice.** *Development* 1995, 121:273-285.

- Ferreira J, Carmofonseca M: The biogenesis of the coiled body during early mouse development. *Development* 1995, 121:601-612.
- Frasch M: Induction of visceral and cardiac mesoderm by ectodermal Dpp in the early *Drosophila* embryo. *Nature* 1995, 374:464-467.
- Gardiner DM, Blumberg B, Komine Y, Bryant SV: Regulation of HoxA expression in developing and regenerating axolotl limbs. *Development* 1995, 121:1731-1741.
- Gavis ER: Pattern formation - Gurken meets torpedo for the first time. *Curr Biol* 1995, 5:1252-1254.
- Genetics Review Group: Sex determination: One for a boy, two for a girl? *Curr Biol* 1995, 5:37-39.
- Gibson G, Hogness DS: Effect of polymorphism in the *Drosophila* regulatory gene Ultrabithorax on homeotic stability. *Science* 1996, 271:200-203.
- Gillespie DE, Berg CA: homeless is required for RNA • localization in *Drosophila* oogenesis and encodes a new member of the DE-H family of RNA dependent ATPases. *Genes Dev* 1995, 9:2495-2508. [14].
- Gloekner G, Beck CF: Genes involved in light control of sexual differentiation in *Chlamydomonas reinhardtii*. *Genetics* 1995, 141:937-943.
- Goldstein B: An analysis of the response to gut induction in the C-elegans embryo. *Development* 1995, 121:1227-1236.
- Gong XH, Dubois DH, Miller DJ, Shur BD: Activation of a G protein complex by aggregation of beta-1,4-galactosyltransferase on the surface of sperm. *Science* 1995, 269:1718-1721.
- Gonzalez-Crespo S, Morata G: Control of *Drosophila* adult pattern by extracellular. *Development* 1995, 121:2117-2125.
- Gonzalez-Reyes A, Elliott H, St Johnston D: Polarisation • of both major body axes in *Drosophila* by gurken-torpedo signalling. *Nature* 1995, 375:654-658. [16].
- Gonzalez-Reyes A, Elliott H, St Johnston D: Polarization of both major body axes in *Drosophila* by gurken-torpedo signalling. *Nature* 1995, 375:654-658.
- Greig S, Akam M: The role of homeotic genes in the specification of the *Drosophila* gonad. *Curr Biol* 1995, 5:1057-1062.
- Gu Y, Hukriede NA, Fleming RJ: Serrate expression can functionally replace Delta activity during neuroblast segregation in the *Drosophila* embryo. *Development* 1995, 121:855-865.
- Gutknecht DR, Koster CH, Tertoolen LGJ, Delaet SW, Durston AJ: Intracellular acidification of gastrula ectoderm is important for posterior axial development in *Xenopus*. *Development* 1995, 121:1911-1925.
- Hacker A, Capel B, Goodfellow P, Lovellbadger R: Expression of Sry, the mouse sex determining gene. *Development* 1995, 121:1603-1614.
- Hampel A, Eppig JJ: Analysis of the mechanism(s) of metaphase I arrest in maturing mouse oocytes. *Development* 1995, 121:925-933.
- Hanks M, Wurst W, Ansoncartwright L, Auerbach AB, Joyner AL: Rescue of the En-1 mutant phenotype by replacement of En-1 with En-2. *Science* 1995, 269:679-682.
- Haramis AG, Brown JM, Zeller R: The limb deformity mutation disrupts the SHH/FGF-4 feedback loop and regulation of 5' HoxD genes during limb pattern formation. *Development* 1995, 121:4237-4245.
- Hawkins NC, Thorpe J, Schubach T: encore, a gene • required for the regulation of germ line mitosis and oocyte differentiation during *Drosophila* oogenesis. *Development* 1996, 122:281-290. [5].
- He X, Saintjeannet JP, Woodgett JR, Varmus HE, Dawid IB: Glycogen synthase kinase-3 and dorsoventral patterning in *Xenopus* embryos. *Nature* 1995, 374:617-622.
- He X, Saintjeannet JP, Woodgett JR, Varmus HE, Dawid IB: Glycogen synthase kinase-3 and dorsoventral patterning in *Xenopus* embryos (vol 374, pg 617, 1995). *Nature* 1995, 375:253.
- Hilfiker A, Amrein H, Dubendorfer A, Schneider R, Nothiger R: The gene virlizer is required for female-specific splicing controlled by Sxl, the master gene for sexual development in *Drosophila*. *Development* 1995, 121:4017-4026.
- Hirata J, Nakagoshi H, Nabeshima Y, Matsuzaki F: Asymmetric segregation of the homeodomain protein Prospero during *Drosophila* development. *Nature* 1995, 377:627-630.
- Hodgkin J, Albertson DG: Isolation of dominant XO-feminizing mutations in *Caenorhabditis elegans*: New regulatory tra alleles and an X chromosome duplication with implications for primary sex determination. *Genetics* 1995, 141:527-542.
- Holley SA, Jackson PD, Sasai Y, Lu B, Derobertis EM, Hoffmann FM, Ferguson EL: A conserved system for dorsal-ventral patterning in insects and vertebrates involving sog and chordin. *Nature* 1995, 376:249-253.
- Horabin JJ, Bopp D, Waterbury J, Schedl P: Selection and maintenance of sexual identity in the *Drosophila* germline. *Genetics* 1995, 141:1521-1535.
- Horan GSB, Ramirez-Solis R, Featherstone MS, Wolgemuth DJ, Bradley A, Behringer RR: Compound mutants for the paralogous hoxa-4, hoxb-4, and hoxd-4 genes show more complete homeotic transformations and a dose-dependent increase in the number of vertebrae transformed. *Genes Dev* 1995, 9:1667.
- Hunter CP, Kenyon C: Specification of anteroposterior cell fates in *Caenorhabditis elegans* by *Drosophila* Hox proteins. *Nature* 1995, 377:229-232.
- Italiano JE, Roberts TM, Stewart M, Fontana CA: Reconstitution in vitro of the motile apparatus from the amoeboid sperm of *Ascaris* shows that filament assembly and bundling move membranes. *Cell* 1996, 84:105-114.
- Jang JK, Messina L, Erdman MB, Arbel T, Hawley RS: Induction of metaphase arrest in *Drosophila* oocytes by chiasma-based kinetochore tension. *Science* 1995, 268:1917-1919.
- Johnson E, Wayne S, Nagoshi R: fs(1) Yb is required for ovary follicle cell differentiation in *Drosophila melanogaster* and has genetic interactions with the Notch group of neurogenic genes. *Genetics* 1995, 140:207-217.
- Jones KT, Carroll J, Merriman JA, Whittingham DG, Kono T: Repetitive sperm-induced Ca2+ transients in mouse oocytes are cell cycle dependent. *Development* 1995, 121:3259-3266.
- Jones SN, Roe AE, Donehower LA, Bradley A: Rescue of embryonic lethality in Mdm2-deficient mice by absence of p53. *Nature* 1995, 378:206-208.
- Karr TL, Pitnick S: The ins and outs of fertilization [Letter]. *Nature* 1996, 379:405-406.
- Kato Y, Tsunoda Y: Germ cell nuclei of male fetal mice can support development of chimeras to midgestation following serial transplantation. *Development* 1995, 121:779-783.
- Katsuyama Y, Wada S, Yasugi S, Saiga H: Expression of the labial group Hox gene Hrhox-1 and its alteration induced by retinoic acid in development of the ascidian *Halocynthia roretzi*. *Development* 1995, 121:3197-3205.
- Kelley RL, Solovyeva I, Lyman LM, Richman R, Solovoyev V, Kuroda MI: Expression of Msl-2 causes assembly of dosage compensation regulators on the X chromosomes and female lethality in *Drosophila*. *Cell* 1995, 81:867-877.
- Kelly GM, Greenstein P, Erezilmaz DF, Moon RT: Zebrafish *wnt8* and *wnt8b* share a common activity but are involved in distinct developmental pathways. *Development* 1995, 121:1787-1799.
- Kessler DS, Melton DA: Induction of dorsal mesoderm by soluble, mature Vg1 protein. *Development* 1995, 121:2155-2164.
- Kimura Y, Yanagimachi R: Mouse oocytes injected with testicular spermatozoa or round spermatids can develop into normal offspring. *Development* 1995, 121:2397-2405.
- Kinoshita K, Asashima M: Effect of activin and lithium on isolated *Xenopus* animal blastomeres and response alteration at the midblastula transition. *Development* 1995, 121:1581-1589.
- Kloc M, Etkin LD: Two distinct pathways for the localization of RNAs at the vegetal cortex in *Xenopus* oocytes. *Development* 1995, 121:287-297.
- Knecht AK, Good PJ, Dawid IB, Harland RM: Dorsal-ventral patterning and differentiation of noggin-induced neural tissue in the absence of mesoderm. *Development* 1995, 121:1927-1935.
- Knittel T, Kessel M, Kim MH, Gruss P: Conserved enhancer of the human and murine Hoxa-7 gene specifies the anterior boundary of expression during embryonal development. *Development* 1995, 121:1077-1088.
- Knoblich JA, Jan LY, Jan YN: Asymmetric segregation of Numb and Prospero during cell division. *Nature* 1995, 377:624-627.
- Koelewin HP, Vandamme JMM: Genetics of male sterility in gynodioecious *Plantago coronopus*. 1. Cytoplasmic variation. *Genetics* 1995, 139:1749-1758.
- Koelewin HP, Vandamme JMM: Genetics of male sterility in gynodioecious *Plantago coronopus*. 2. Nuclear genetic variation. *Genetics* 1995, 139:1759-1775.
- Koga M, Onshima Y: Mosaic analysis of the let-23 gene function in vulval induction of *Caenorhabditis elegans*. *Development* 1995, 121:2655-2666.
- Kondo S, Asai R: A reaction-diffusion wave on the skin of the marine angelfish *Pomacanthus*. *Nature* 1995, 376:765-768.
- Kono T, Carroll J, Swann K, Whittingham DG: Nuclei from fertilized mouse embryos have calcium-releasing activity. *Development* 1995, 121:1123-1128.
- Kurokawa R, Soderstrom M, Horlein A, Halachmi S, Brown M, Rosenfeld MG, Glass CK: Polarity-specific activities of retinoic acid receptors determined by a co-repressor. *Nature* 1995, 377:451-454.
- Larsen PL, Albert PS, Riddle DL: Genes that regulate both development and longevity in *Caenorhabditis elegans*. *Genetics* 1995, 139:1567-1583.
- Lawrence PA, Bodmer R, Vincent JP: Segmental patterning of heart precursors in *Drosophila*. *Development* 1995, 121:4303-4308.
- Lin H, Spradling AC: Fusome asymmetry and oocyte • determination in *Drosophila*. *Dev Genet* 1995, 16:6-12. [13].
- Lin RL, Thompson S, Priess JR: pop-1 encodes an HMG box protein required for the specification of a mesoderm precursor in early C-elegans embryos. *Cell* 1995, 83:599-609.
- Luna RMD, Wagner DS, Lozano G: Rescue of early embryonic lethality in mdm2-deficient mice by deletion of p53. *Nature* 1995, 378:203-206.
- Lundgren SE, Callahan CA, Thor S, Thomas JB: Control of neuronal pathway selection by the *Drosophila* LIM homeodomain gene *apterous*. *Development* 1995, 121:1769-1773.
- Lyons I, Parsons LM, Hartley L, Li RL, Andrews JE, Robb L, Harvey RP: Myogenic and morphogenetic defects in the heart tubes of murine embryos lacking the homeo box gene *Nkx2-5*. *Genes Dev* 1995, 9:1654-1666.
- Ma CY, Moses K: Wingless and Patched are negative regulators of the morphogenetic furrow and can affect tissue polarity in the developing *Drosophila* compound eye. *Development* 1995, 121:2279-2289.
- Maggert K, Levine M, Frasch M: The somatic-visceral subdivision of the embryonic mesoderm is initiated by dorsal gradient thresholds in *Drosophila*. *Development* 1995, 121:2107-2116.
- Mahone M, Saffman EE, Lasko PF: Localized *Bicaudal-C* • RNA encodes a protein containing a KH domain, the RNA binding motif of FMR1. *EMBO J* 1995, 14:2043-2055. [55].
- Manley NR, Capecchi MR: The role of Hoxa-3 in mouse thymus and thyroid development. *Development* 1995, 121:1989-2003.
- Markussen FH, Michon AM, Breitwieser W, Ephrussi A: • Translational control of oskar generates short OSK, the isoform that induces pole plasm assembly. *Development* 1995, 121:3723-3732. [57].
- Martin GR: Developmental biology - Why thumbs are up. *Nature* 1995, 374:410-411.
- Marx J: Tracing how the sexes develop. *Science* 1995, 269:1822-1824.
- Marx J: Mammalian sex determination - Snaring the genes that divide the sexes for mammals. *Science* 1995, 269:1824-1825.
- Masuya H, Sagai T, Wakana S, Moriaki K, Shiroishi T: A duplicated zone of polarizing activity in polydactylous mouse mutants. *Genes Dev* 1995, 9:1645-1653.
- Matsuo I, Kuratani S, Kimura C, Takeda N, Aizawa S: Mouse *Otx2* functions in the formation and patterning of rostral head. *Genes Dev* 1995, 9:2646-2658.
- Matzuk MM, Lu NF, Vogel H, Sellheyer K, Roop DR, Bradley A: Multiple defects and perinatal death in mice deficient in follistatin. *Nature* 1995, 374:360-363.
- Mayor R, Morgan R, Sargent MG: Induction of the prospective neural crest of *Xenopus*. *Development* 1995, 121:767-777.
- McGrail M, Gerner J, Silvanovich A, Ludmann S, Serr M, • Hays TS: Regulation of cytoplasmic dynein function in vivo by the *Drosophila* Glued complex. *J Cell Biol* 1995, 131:411-425. [42].
- McKearin D, Ohlstein B: A role for the *Drosophila* • bag-of-marbles protein in the differentiation of cystoblasts from germline stem cells. *Development* 1995, 121:2937-2947. [4].
- Meinhardt H: Growth and patterning - Dynamics of stripe formation. *Nature* 1995, 376:722-723.
- Miller J, Fraser SE, Mcclay D: Dynamics of thin filopodia during sea urchin gastrulation. *Development* 1995, 121:2501-2511.
- Mishina Y, Suzuki A, Ueno N, Behringer RR: Bmpr encodes a type I bone morphogenetic protein receptor that is essential for gastrulation during mouse embryogenesis. *Genes Dev* 1995, 9:3027-3037.
- Moore SW, Keller RE, Koehl MAR: The dorsal involuting marginal zone stiffens anisotropically during its convergent extension in the gastrula of *Xenopus laevis*. *Development* 1995, 121:3131-3140.
- Moos M, Wang SW, Krinks M: Anti-dorsalizing Morphogenetic Protein is a novel TGF-beta

- homolog expressed in the Spemann organizer. *Development* 1995, 121:4293-4301.
- Murata Y, Wharton RP: Binding of pumilio to maternal hunchback mRNA is required for posterior patterning in *Drosophila* embryos. *Cell* 1995, 80:747-756.
- Nagoshi RN, Patton JS, Bae EY, Geyer PK: The somatic sex determines the requirement for ovarian tumor gene activity in the proliferation of the *Drosophila* germline. *Development* 1995, 121:579-587.
- Newmansmith ED, Werb Z: Stem cell defects in parthenogenetic peri-implantation embryos. *Development* 1995, 121:2069-2077.
- Ng M, Diazbenjumea FJ, Cohen SM: Nubbin encodes a POU-domain protein required for proximal-distal patterning in the *Drosophila* wing. *Development* 1995, 121:589-599.
- Oakey RJ, Matteson PG, Litwin S, Tilghman SM, Nussbaum RL: Nondisjunction rates and abnormal embryonic development in a mouse cross between heterozygotes carrying a (7, 18) Robertsonian translocation chromosome. *Genetics* 1995, 141:667-674.
- Oliver G, Wehr R, Jenkins NA, Copeland NG, Chetty BNR, Hartenstein V, Zipursky SL, Gruss P: Homeobox genes and connective tissue patterning. *Development* 1995, 121:693-705.
- Ono K, Bansal R, Payne J, Rutishauser U, Miller RH: Early development and dispersal of oligodendrocyte precursors in the embryonic chick spinal cord. *Development* 1995, 121:1743-1754.
- Pannese M, Polo C, Andreazoli M, Vignali R, Kablar B, Barsacchi G, Boncinelli E: The *Xenopus* homolog of *Otx2* is a maternal homeobox gene that demarcates and specifies anterior body regions. *Development* 1995, 121:707-720.
- Parrington J, Swann K, Shevchenko VI, Sesay AK, Lai FA: Calcium oscillations in mammalian eggs triggered by a soluble sperm protein. *Nature* 1996, 379:364-368.
- Pfaff SL, Mendelsohn M, Stewart CL, Edlund T, Jessell TM: Requirement for LIM homeobox gene *Isl1* in motor neuron generation reveals a motor neuron-dependent step in interneuron differentiation. *Cell* 1996, 84:309-320.
- Pirrotta V, Chan CS, McCabe D, Qian S: Distinct parasegmental and imaginal enhancers and the establishment of the expression pattern of the *Ubx* gene. *Genetics* 1995, 141:1439-1450.
- Poirie M, Niederer E, Steinmannzwick M: A sex-specific number of germ cells in embryonic gonads of *Drosophila*. *Development* 1995, 121:1867-1873.
- Pokrywka NJ, Stephenson EC: Microtubules are a general component of mRNA localisation systems in *Drosophila* oocytes. *Dev Biol* 1995, 167:363-370. [31].
- Qiao L, Lissimore JL, Shu P, Smardon A, Gelber MB, Maine EM: Enhancers of *gfp-1*, a gene required for cell-signaling in *Caenorhabditis elegans*, define a set of genes required for germline development. *Genetics* 1995, 141:551-569.
- Reginelli AD, Wang YQ, Sassoon D, Muneoka K: Digit tip regeneration correlates with regions of *Msx1* (*Hox 7*) expression in fetal and newborn mice. *Development* 1995, 121:1065-1076.
- Riverapomar R, Lu XG, Perrimon N, Taubert H, Jackle H: Activation of posterior gap gene expression in the *Drosophila* blastoderm. *Nature* 1995, 376:253-256.
- Roberts DJ, Johnson RL, Burke AC, Nelson CE, Morgan BA, Tabin C: Sonic hedgehog is an endodermal signal inducing *Bmp-4* and *Hox* genes during induction and regionalization of the chick hindgut. *Development* 1995, 121:3163-3174.
- Rongo C, Gavis ER, Lehmann R: Localization of *oskar* RNA regulates *oskar* translation and requires *oskar* protein. *Development* 1995, 121:2737-2746. [56].
- Roth S, Neuman-Silberberg FS, Barcelo G, Schubach T: *comichon* and the EGF receptor signaling process are necessary for both anterior-posterior and dorsal-ventral pattern formation in *Drosophila*. *Cell* 1995, 81:967-978. [17].
- Roush W: Developmental biology - Embryos travel forking path as they left from right. *Science* 1995, 269:1514-1515.
- Roush W: Developmental biology - Sperm protein makes its mark upon the worm embryo. *Science* 1996, 271:33.
- Roush W: Developmental biology - Fertile results: Bringing up baby (eggs). *Science* 1996, 271:594-595.
- Sasai Y, Lu B, Steinbeisser H, Derobertis EM: Regulation of neural induction by the *Chd* and *Bmp-4* antagonistic patterning signals in *Xenopus*. *Nature* 1995, 376:333-336.
- Sasai Y, Lu B, Steinbeisser H, Derobertis EM: Regulation of neural induction by the *Chd* and *Bmp-4* antagonistic patterning signals in *Xenopus* (vol 376, pg 333, 1995). *Nature* 1995, 377:757.
- Satokata I, Benson G, Maas R: Sexually dimorphic sterility phenotypes in *Hoxa10*-deficient mice. *Nature* 1995, 374:460-463.
- Schmidt J, Francois V, Bier E, Kimelman D: *Drosophila* short gastrulation induces an ectopic axis in *Xenopus*: Evidence for conserved mechanisms of dorsal-ventral patterning. *Development* 1995, 121:4319-4328.
- Schrick JJ, Dickinson ME, Hogan BLM, Selby PB, Woychik RP: Molecular and phenotypic characterization of a new mouse insertional mutation that causes a defect in the distal vertebrae of the spine. *Genetics* 1995, 140:1061-1067.
- Schulz C, Tautz D: Zygotic caudal regulation by hunchback and its role in abdominal segment formation of the *Drosophila* embryo. *Development* 1995, 121:1023-1028.
- Schwartz C, Locke J, Nishida C, Kornberg TB: Analysis of cubitus interruptus regulation in *Drosophila* embryos and imaginal disks. *Development* 1995, 121:1625-1635.
- Serano TL, Cohen RS: A small predicted stem-loop structure mediates oocyte localization of *Drosophila* K10 mRNA. *Development* 1995, 121:3809-3818. [32].
- Serano TL, Cohen RS: Gratuitous mRNA localization in the *Drosophila* oocyte. *Development* 1995, 121:3013-3021. [33].
- Shashikant CS, Biebrich CJ, Belting HG, Wang JCH, Borbely MA, Ruddle FH: Regulation of *Hoxc-8* during mouse embryonic development: Identification and characterization of critical elements involved in early neural tube expression. *Development* 1995, 121:4339-4347.
- Shawlot W, Behringer RR: Requirement for *Lim1* in head-organizer function. *Nature* 1995, 374:425-430.
- Sheets MD, Wu M, Wickens M: Polyadenylation of *c-mos* mRNA as a control point in *Xenopus* meiotic maturation. *Nature* 1995, 374:511-516.
- Shimamura K, Hartigan DJ, Martinez S, Puelles L, Rubenstein JLR: Longitudinal organization of the anterior neural plate and neural tube. *Development* 1995, 121:3923-3933.
- Short N: Patterns of pattern formation. *Nature* 1995, 378:331.
- Simmonds AJ, Brook WJ, Cohen SM, Belle JB: Distinguishable functions for engrailed and invected in anterior-posterior patterning in the *Drosophila* wing. *Nature* 1995, 376:424-427.
- Smith CL, Giordano H, Schwartz M, Delotto R: Spatial regulation of *Drosophila* Snake protease activity in the generation of dorsal-ventral polarity. *Development* 1995, 121:4127-4135.
- Smith WC, Mckendry R, Ribisi S, Harland RM: A nodal-related gene defines a physical and functional domain within the Spemann organizer. *Cell* 1995, 82:37-46.
- Sokol SY, Klingensmith J, Perrimon N, Itoh K: Dorsalizing and neutralizing properties of *Xdsh*, a maternally expressed *Xenopus* homolog of dishevelled. *Development* 1995, 121:1637-1647.
- Sordino P, Vanderhoeven F, Duboule D: *Hox* gene expression in teleost fins and the origin of vertebrate digits. *Nature* 1995, 375:678-681.
- Stein D: Pattern formation: The link between ovary and embryo. *Curr Biol* 1995, 5:1360-1363.
- Streit A, Stern CD, Thery C, Ireland GW, Aparicio S, Sharpe MJ, Gherardi E: A role for HGF/SF in neural induction and its expression in Hensen's node during gastrulation. *Development* 1995, 121:813-824.
- Taira M, Otani H, Saintjeant JP, Dawid IB: Role of the LIM class homeodomain protein *Lim1* in neural and muscle induction by the Spemann organizer in *Xenopus* (vol 372, pg 677, 1994). *Nature* 1995, 373:451.
- Talbot WS, Trevarrow B, Halpern ME, Melby AE, Farr G, Postlethwait JH, Jowett T, Kimmel CB, Kimelman D: A homeobox gene essential for zebrafish notochord development. *Nature* 1995, 378:150-157.
- Tam PPL, Quinlan GA: Mapping vertebrate embryos. *Curr Biol* 1996, 6:104-106.
- Tang TL, Freeman RM, Oreilly AM, Neel BG, Sokol SY: The SH2-containing protein-tyrosine phosphatase SH-PTP2 is required upstream of MAP kinase for early *Xenopus* development. *Cell* 1995, 80:473-483.
- Tetzlaff MJ, Jackle H, Pankratz MJ: Lack of *Drosophila* cytoskeletal tropomyosin affects head morphogenesis and the accumulation of *oskar* mRNA required for germ cell formation. *EMBO J* 1996, 15:1247-1254. [46].
- Theriot JA: Worm sperm and advances in cell locomotion. *Cell* 1996, 84:1-4.
- Tiong SYK, Nash D, Bender W: Dorsal wing, a locus that affects dorsoventral wing patterning in *Drosophila*. *Development* 1995, 121:1649-1656.
- Toyama R, Oconnell ML, Wright CVE, Kuehn MR, Dawid IB: Nodal induces ectopic gooseoid and *lim1* expression and axis duplication in zebrafish. *Development* 1995, 121:383-391.
- Trainor PA, Tam PPL: Cranial paraxial mesoderm and neural crest cells of the mouse embryo: Co-distribution in the craniofacial mesenchyme but distinct segregation in branchial arches. *Development* 1995, 121:2569-2582.
- Tuck S, Greenwald I: *lin-25*, a gene required for vulval induction in *Caenorhabditis elegans*. *Genes Dev* 1995, 9:341-357.
- Tucker AS, Slack JMW: Tail bud determination in the vertebrate embryo. *Curr Biol* 1995, 5:807-813.
- Udolph G, Luer K, Bossing T, Technau GM: Commitment of CNS progenitors along the dorsoventral axis of *Drosophila* neuroectoderm. *Science* 1995, 269:1278-1281.
- Umbhauer M, Marshall CJ, Mason CS, Old RW, Smith JC: Mesoderm induction in *Xenopus* caused by activation of MAP kinase. *Nature* 1995, 376:58-62.
- Visconti PE, Bailey JL, Moore GD, Pan DY, Oldsclarke P, Kopf GS: Capacitation of mouse spermatozoa. 1. Correlation between the capacitation state and protein tyrosine phosphorylation. *Development* 1995, 121:1129-1137.
- Visconti PE, Moore GD, Bailey JL, Leclerc P, Connors SA, Pan DY, Oldsclarke P, Kopf GS: Capacitation of mouse spermatozoa. 2. Protein tyrosine phosphorylation and capacitation are regulated by a cAMP-dependent pathway. *Development* 1995, 121:1139-1150.
- Warn R: Developmental biology - The scattered jigsaw. *Nature* 1995, 376:723.
- Warren RW, Nagy L, Selegue J, Gates J, Carroll S: Evolution of homeotic gene regulation and function in flies and butterflies (vol 372, pg 458, 1994). *Nature* 1995, 373:451.
- Watabe T, Kim S, Candia A, Rothbacher U, Hashimoto C, Inoue K, Cho KWW: Molecular mechanisms of Spemann's organizer formation: Conserved growth factor synergy between *Xenopus* and mouse. *Genes Dev* 1995, 9:3038-3050.
- Wayne S, Liggett K, Pettus J, Nagoshi RN: Genetic characterization of small ovaries, a gene required in the soma for the development of the *Drosophila* ovary and the female germline. *Genetics* 1995, 139:1309-1320.
- Weite MA, Duncan I, Lindquist S: The basis for a heat-induced developmental defect: Defining crucial lesions. *Genes Dev* 1995, 9:2240-2250.
- Werner MH, Ruth JR, Gronenborn AM, Clore GM: Molecular basis of human 46,X sex reversal revealed from the three-dimensional solution structure of the human SRY-DNA complex. *Cell* 1995, 81:705-714.
- Wheatley S, Kulkarni S, Kares R: *Drosophila* nonmuscle myosin II is required for rapid cytoplasmic transport during oogenesis and for axial nuclear migration in early embryos. *Development* 1995, 121:1937-1946.
- Williams N: Dosage compensation - How males and females achieve X equality. *Science* 1995, 269:1826-1827.
- Wilson PA, Hemmatibrivanlou A: Induction of epidermis and inhibition of neural fate by *Bmp-4*. *Nature* 1995, 376:331-333.
- Wilson V, Manson L, Skarnes WC, Beddington RSP: The *T* gene is necessary for normal mesodermal morphogenetic cell movements during gastrulation. *Development* 1995, 121:877-886.
- Wodarz A, Hinz U, Engelbert M, Knust E: Expression of crumbs confers apical character on plasma membrane domains of ectodermal epithelia of *Drosophila*. *Cell* 1995, 82:67-76.
- Wolff C, Sommer R, Schroder R, Glaser G, Tautz D: Conserved and divergent expression aspects of the *Drosophila* segmentation gene hunchback in the short germ band embryo of the flour beetle *Tribolium*. *Development* 1995, 121:4227-4236.
- Wong A, Boutis P, Hekimi S: Mutations in the *clk-1* gene of *Caenorhabditis elegans* affect developmental and behavioral timing. *Genetics* 1995, 139:1247-1259.
- Yang YZ, Niswander L: Interaction between the signaling molecules *WNT7a* and *SHH* during vertebrate limb development: Dorsal signals regulate anteroposterior patterning. *Cell* 1995, 80:939-947.
- Yu BD, Hess JL, Horning SE, Brown GAJ, Korsmeyer SJ: Altered *Hox* expression and segmental identity in *Mit*-mutant mice. *Nature* 1995, 378:505-508.

Zhang YH, Emmons SW: Specification of sense-organ identity by a *Caenorhabditis elegans* Pax-6 homologue. *Nature* 1995, 377:55–59.

## Maternal effects, imprinting and axis determination

Related review: Translational regulation of maternal mRNAs (pp 403–407)

- Aitken RJ: The complexities of conception. *Science* 1995, 269:39–40.
- Anderson K: One signal, two body axes. *Science* 1995, 269:489–490.
- Barlow DP: Gametic imprinting in mammals. *Science* 1995, 270:1610–1613.
- Burks DJ, Carballada R, Moore HDM, Saling PM: Interaction of a tyrosine kinase from human sperm with the zona pellucida at fertilization. *Science* 1995, 269:83–86.
- Campbell G, Tomlinson A: Initiation of the proximodistal axis in insect legs. *Development* 1995, 121:619–628.
- Cui YZ, Brown JD, Moon RT, Christian JL: Xwnt-8b: A maternally expressed *Xenopus* Wnt gene with a potential role in establishing the dorsoventral axis. *Development* 1995, 121:2177–2186.
- Curtis D, Apfeld J, Lehmann R: Nanos is an evolutionarily conserved organizer of anterior-posterior polarity. *Development* 1995, 121:1899–1910.
- Dubnau J, Struhl G: RNA recognition and translational regulation by a homeodomain protein. *Nature* 1996, 379:694–699. [44].
- Eden S, Cedar H: Genomic imprinting - Action at a distance. *Nature* 1995, 375:16–17.
- Ekstrom TJ, Cui HM, Ohlsson R: Promoter-specific IGF2 imprinting status and its plasticity during human liver development. *Development* 1995, 121:309–316.
- Fontaineperis J, Jarno V, Leray CF, Li Z, Paulin D: Mouse chick chimera: A new model to study the in ovo developmental potentialities of mammalian somites. *Development* 1995, 121:1705–1718.
- Gonzalezreyes A, Elliott H, Stjohnston D: Polarization of both major body axes in *Drosophila* by gurken-torpedo signalling. *Nature* 1995, 375:654–658.
- Gutknecht DR, Koster CH, Tertoolen LGJ, Delaat SW, Durston AJ: Intracellular acidification of gastrula ectoderm is important for posterior axial development in *Xenopus*. *Development* 1995, 121:1911–1925.
- Hekimi S, Boutis P, Lakowski B: Viable maternal-effect mutations that affect the development of the nematode *Caenorhabditis elegans*. *Genetics* 1995, 141:1351–1364.
- Jefferies RPS, Brown NA: Dorsoventral axis inversion? [Letter]. *Nature* 1995, 374:22.
- Kim-Ha J, Kerr K, Macdonald PM: Translational regulation of *oskar* mRNA by Bruno, an ovarian RNA-binding protein, is essential. *Cell* 1995, 81:403–412. [17].
- King T, Brown NA: Left-right asymmetry: The embryo's one-sided genes. *Curr Biol* 1995, 5:1364–1366.
- Leighton PA, Ingram RS, Eggenschwiler J, Efstratiadis A, Tilghman SM: Disruption of imprinting caused by deletion of the H19 gene region in mice. *Nature* 1995, 375:34–39.
- Lemaire P, Garrett N, Gurdon JB: Expression cloning of Siamois, a *Xenopus* homeobox gene expressed in dorsal vegetal cells of blastulae and able to induce a complete secondary axis. *Cell* 1995, 81:85–94.
- Markussen F-H, Michon A-M, Breitwieser W, Ephrussi A: Translational control of *oskar* generates Short OSK, the isoform that induces pole plasm assembly. *Development* 1995, 121:3723–3732. [19].
- Murata Y, Wharton RP: Binding of pumilio to maternal *hunchback* mRNA is required for posterior patterning in *Drosophila* embryos. *Cell* 1995, 80:747–756. [24].
- Parr BA, McMahon AP: Dorsalizing signal Wnt-7a required for normal polarity of D-V and A-P axes of mouse limb. *Nature* 1995, 374:350–353.
- Paulsen JE, Capowski EE, Strome S: Phenotypic and molecular analysis of *mes-3*, a maternal-effect gene required for proliferation and viability of the germ line in *C. elegans*. *Genetics* 1995, 141:1383–1398.
- Riddle RD, Ensign M, Nelson C, Tsuchida T, Jessell TM, Tabin C: Induction of the LIM homeobox gene *Lmx1* by WNT7a establishes dorsoventral pattern in the vertebrate limb. *Cell* 1995, 83:631–640.
- Roth S, Neumannsberger FS, Barcelo G, Schupbach T: Cornichon and the EGF receptor signaling process are necessary for both anterior-posterior and dorsal-ventral pattern formation in *Drosophila*. *Cell* 1995, 81:967–978.
- Sasaki H, Fergusonsmith AC, Shum ASW, Barton SC, Surani MA: Temporal and spatial regulation of H19 imprinting in normal and uniparental mouse embryos. *Development* 1995, 121:4195–4202.
- Sheets MD, Wu M, Wickens M: Polyadenylation of *c-mos* mRNA as a control point in *Xenopus* meiotic maturation. *Nature* 1995, 374:511–516. [14].
- Sokol SY, Klingensmith J, Perrimon N, Itoh K: Dorsalizing and neuralizing properties of Xdsh, a maternally expressed *Xenopus* homolog of dishevelled. *Development* 1995, 121:1637–1647.
- Subramanian V, Meyer BI, Gruss P: Disruption of the murine homeobox gene *Cdx1* affects axial skeletal identities by altering the mesodermal expression domains of Hox genes. *Cell* 1995, 83:641–653.
- Szabo PE, Mann JR: Allele-specific expression and total expression levels of imprinted genes during early mouse development: Implications for imprinting mechanisms. *Genes Dev* 1995, 9:3097–3108.
- Toyama R, O'Connell ML, Wright CVE, Kuehn MR, Dawid IB: Nodal induces ectopic gooseoid and *lim1* expression and axis duplication in zebrafish. *Development* 1995, 121:383–391.
- Ward JG, Davis MC, Allis CD, Herrick G: Effects of nullisomic chromosome deficiencies on conjugation events in *Tetrahymena thermophila*: Insufficiency of the parental macronucleus to direct postzygotic development. *Genetics* 1995, 140:989–1005.
- Yasuda GK, Schubiger G, Wakimoto BT: Genetic characterization of *ms (3) K81*, a paternal effect gene of *Drosophila melanogaster*. *Genetics* 1995, 140:219–229.

## Gene regulation and expression in development

Related reviews: Molecular genetics of asymmetric cleavage in the early *Caenorhabditis elegans* embryo (pp 408–415); Threshold responses to the dorsal regulatory gradient and the subdivision of primary tissue territories in the *Drosophila* embryo (pp 416–423)<sup>†</sup>; Dosage compensation and chromatin structure in *Drosophila* (pp 496–501)<sup>‡</sup>

- Alkema MJ, Vanderlugt NMT, Bobeldijk RC, Berns A, Vanlohuizen M: Transformation of axial skeleton due to overexpression of *bmi-1* in transgenic mice. *Nature* 1995, 374:724–727.
- Appel B, Korzh V, Glasgow E, Thor S, Edlund T, Dawid IB, Eisen JS: Motoneuron fate specification revealed by patterned LIM homeobox gene expression in embryonic zebrafish. *Development* 1995, 121:4117–4125.
- Azora K, Dai H, Kazuko SG, Jamal J, O'Connor MB, Letsou A, Warrior R: The *Drosophila* *schnurri* gene acts in the Dpp/TGFβ signaling pathway and encodes a transcription factor homologous to the human MBP family. *Cell* 1995, 81:781–790. [66].
- Bailey AM, Posakony JW: Suppressor of hairless directly activates transcription of enhancer of split complex genes in response to notch receptor activity. *Genes Dev* 1995, 9:2609–2622.
- Bashaw GJ, Baker BS: The *msl-2* dosage compensation gene of *Drosophila* encodes a putative DNA-binding protein whose expression is sex specifically regulated by Sex-lethal. *Development* 1995, 121:3245–3258. [7].
- Buratowski S: Mechanisms of gene activation. *Science* 1995, 270:1773–1774.
- Cao Z, Henzel WJ, Gao X: IRAK: a kinase associated with the interleukin-1 receptor. *Science* 1996, 271:1128–1131. [7].
- Chan DC, Wynshawboris A, Leder P: Formin isoforms are differentially expressed in the mouse embryo and are required for normal expression of *tfg-4* and *shh* in the limb bud. *Development* 1995, 121:3151–3162.
- Chen JD, Evans RM: A transcriptional co-repressor that interacts with nuclear hormone receptors. *Nature* 1995, 377:454–457.
- Chen WH, Morrissey GM, Copp AJ: Genesis and prevention of spinal neural tube defects in the curly tail mutant mouse: Involvement of retinoic acid and its nuclear receptors RAR-beta and RAR-gamma. *Development* 1995, 121:681–691.
- Cheng NN, Kirby CM, Kempthorne KJ: Control of cleavage spindle orientation in *C. elegans*: the role of the genes *par-2* and *par-3*. *Genetics* 1995, 139:549–559. [30].
- Crossley PH, Martin GR: The mouse *Fgf8* gene encodes a family of polypeptides and is expressed in regions that direct outgrowth and patterning in the developing embryo. *Development* 1995, 121:439–451.
- Curtis D, Lehmann R, Zamore PD: Translational regulation in development. *Cell* 1995, 81:171–178.
- Duyao MP, Auerbach AB, Ryan A, Persichetti F, Barnes GT, McNeil SM, Ge P, Vonsattel JP, Gusella JF, Joyner AL, Macdonald ME: Inactivation of the mouse Huntington's disease gene homolog *Hdh*. *Science* 1995, 269:407–410.
- Enari M, Hug H, Nagata S: Involvement of an ICE-like protease in Fas-mediated apoptosis. *Nature* 1995, 375:78–81.
- Erdelyi M, Michon AM, Guichet A, Grotzer JB, Ephrussi A: Requirement for *Drosophila* cytoplasmic tropomyosin in *oskar* mRNA localization. *Nature* 1995, 377:524–527.
- Etemad-Moghadam B, Guo S, Kempthorne KJ: Asymmetrically distributed PAR-3 protein contributes to cell polarity and spindle alignment in early *C. elegans* embryos. *Cell* 1995, 83:743–752. [35].
- Fawcett D, Pasceri P, Fraser R, Colbert M, Rossant J, Giguere V: Postaxial polydactyly in forelimbs of CRABP-II mutant mice. *Development* 1995, 121:671–679.
- Frasch M: Induction of visceral and cardiac mesoderm by ectodermal Dpp in the early *Drosophila* embryo. *Nature* 1995, 374:464–467. [45].
- Galliot B, Welschhof M, Schuckert O, Hoffmeister S, Schaller HC: The cAMP response element binding protein is involved in hydra regeneration. *Development* 1995, 121:1205–1216.
- Gardiner DM, Blumberg B, Komine Y, Bryant SV: Regulation of *HoxA* expression in developing and regenerating axolotl limbs. *Development* 1995, 121:1731–1741.
- Gibson G, Hogness DS: Effect of polymorphism in the *Drosophila* regulatory gene *Ultrabithorax* on homeotic stability. *Science* 1996, 271:200–203.
- Goldstein B, Hird SN: Specification of the anterior-posterior axis in *C. elegans*. *Development* 1996, in press. [18].
- Gorman M, Franke A, Baker BS: Molecular characterization of the male-specific *lthal-3* gene and investigations of the regulation of dosage compensation in *Drosophila*. *Development* 1995, 121:463–475. [4].
- Grieder NC, Nellen D, Burke R, Basler K, Affolter M: *schnurri* is required for *Drosophila* dpp signaling and encodes a zinc finger protein similar to the mammalian transcription factor PRDII-BF1. *Cell* 1995, 81:791–800. [64].
- Guo S, Kempthorne KJ: *par-1*, a gene required for establishing polarity in *C. elegans* embryos encodes a putative ser/thr kinase that is asymmetrically distributed. *Cell* 1995, 81:611–620. [31].
- Halder G, Callaerts P, Gehring WJ: Induction of ectopic eyes by targeted expression of the *eyeless* gene in *Drosophila*. *Science* 1995, 267:1788–1792.
- Hanks M, Wurst W, Ansoncartwright L, Auerbach AB, Joyner AL: Rescue of the *En-1* mutant phenotype by replacement of *En-1* with *En-2*. *Science* 1995, 269:679–682.
- Haramis AG, Brown JM, Zeller R: The limb deformity mutation disrupts the SHH/FGF-4 feedback loop and regulation of 5' *HoxD* genes during limb pattern formation. *Development* 1995, 121:4237–4245.
- Hecht A, Laroche T, Strahl-Bolsinger S, Gasser SM, Grunstein M: Histone H3 and H4 N-termini interact with SIR3 and SIR4 proteins: a molecular model for the formation of heterochromatin in yeast. *Cell* 1995, 80:583–592. [21].
- Hilfiker A, Amrein H, Dubendorfer A, Schneider R, Nöthiger R: The gene *virilizer* is required for female-specific splicing controlled by *Sxl*, the master gene for sexual development in *Drosophila*. *Development* 1995, 121:4017–4026. [38].
- Hird SE, Paulsen JE, Strome S: Segregation of germ granules in living *Caenorhabditis elegans* embryos: cell-type-specific mechanisms for cytoplasmic localization. *Development* 1996, 122:1303–1312. [26].
- Holley SA, Jackson PD, Sasai Y, Lu B, De Robertis EM, Hoffmann FM, Ferguson EL: A conserved system for dorsal-ventral patterning in insects and vertebrates involving *sog* and *chordin*. *Nature* 1995, 376:249–253. [55].
- Horlein AJ, Naar AM, Heinzel T, Torchia J, Glass B, Kurokawa R, Ryan A, Kamel Y, Soderstrom M, Glass CK, Rosenfeld MG: Ligand-independent repression by the thyroid hormone receptor mediated by a nuclear receptor co-repressor. *Nature* 1995, 377:397–404.

- Hsu DR, Chuang PT, Meyer BJ: **DPY-30, a nuclear protein essential early in embryogenesis for *Caenorhabditis elegans* dosage compensation.** *Development* 1995, 121:3323-3334.
- Hu S, Fambrough D, Atashi JR, Goodman CS, Crews ST: **The *Drosophila* abrupt gene encodes a BTB-zinc finger regulatory protein that controls the specificity of neuromuscular connections.** *Genes Dev* 1995, 9:2936-2948.
- Huang J-D, Dubnicoff T, Liaw G-J, Bai Y, Valentine S, • Shirokawa JM, Lengyel J, Courey AJ: **Binding sites for transcription factor NTF-1/Elf-1 contribute to the ventral repression of *decapentaplegic*.** *Genes Dev* 1995, 9:3177-3189. [30†].
- Hyduk D, Percival-Smith A: **Genetic characterization of the homeodomain-independent activity of the *Drosophila* fushi tarazu gene product.** *Genetics* 1996, 142:481-492.
- Ip YT: **Transcriptional regulation: Converting an activator into a repressor.** *Curr Biol* 1995, 5:1-3.
- Johnson RL, Grenier JK, Scott MP: **patched overexpression alters wing disc size and pattern: Transcriptional and cost-transcriptional effects on hedgehog targets.** *Development* 1995, 121:4161-4170.
- Kelley RL, Solovyeva I, Lyman LM, Richman R, Solovyev V, • Kuroda MI: **Expression of *msl-2* causes assembly of dosage compensation regulators on the X chromosomes and female lethality in *Drosophila*.** *Cell* 1995, 81:867-877. [6†].
- Kimha J, Kerr K, Macdonald PM: **Translational regulation of oskar mRNA by Bruno, an ovarian RNA-binding protein, is essential.** *Cell* 1995, 81:403-412.
- Kitsukawa T, Shimono A, Kawakami A, Kondoh H, Fujisawa H: **Overexpression of a membrane protein, neuropilin, in chimeric mice causes anomalies in the cardiovascular system, nervous system and limbs.** *Development* 1995, 121:4309-4318.
- Knittel T, Kessel M, Kim MH, Gruss P: **Conserved enhancer of the human and murine *Hoxa-7* gene specifies the anterior boundary of expression during embryonal development.** *Development* 1995, 121:1077-1088.
- Koga M, Ohshima Y: **Mosaic analysis of the *let-23* gene function in vulval induction of *Caenorhabditis elegans*.** *Development* 1995, 121:2655-2666.
- Kurokawa R, Soderstrom M, Horlein A, Halachmi S, Brown M, Rosenfeld MG, Glass CK: **Polarity-specific activities of retinoic acid receptors determined by a co-repressor.** *Nature* 1995, 377:451-454.
- Lampron C, Rochetteguy C, Gorry P, Dolle P, Mark M, Lufkin T, Lemeur M, Chambon P: **Mice deficient in cellular retinoic acid binding protein II (CRABPII) or in both CRABPI and CRABPII are essentially normal.** *Development* 1995, 121:539-548.
- Larsen PL, Albert PS, Riddle DL: **Genes that regulate both development and longevity in *Caenorhabditis elegans*.** *Genetics* 1995, 139:1567-1583.
- Lecourtis M, Schweisguth F: **The neurogenic suppressor of hairless DNA-binding protein mediates the transcriptional activation of the Enhancer of split complex genes triggered by notch signaling.** *Genes Dev* 1995, 9:2598-2608.
- Lettsou A, Arora K, Wrana JL, Simin K, Twombly V, Jamal • J, Staehling-Hampton K, Hoffmann FM, Gelbart WM, Massagué J, O'Connor MB: ***Drosophila* dpp signaling is mediated by the put gene product: a dual ligand-binding type II receptor of the TGFβ receptor family.** *Cell* 1995, 80:899-908. [6†].
- Liaw GJ, Rudolph KM, Huang JD, Dubnicoff T, Courey AJ, Lengyel JA: **The torso response element binds GAGA and NTF-1/Elf-1, and regulates tailless by relief of repression.** *Genes Dev* 1995, 9:3163-3176.
- Macdonald R, Barth KA, Xu QL, Holder N, Mikkola I, Wilson SW: **Midline signalling is required for Pax gene regulation and patterning of the eyes.** *Development* 1995, 121:3267-3278.
- Maggert K, Levine M, Frasch M: **The somatic-visceral • subdivision of the embryonic mesoderm is initiated by dorsal gradient thresholds in *Drosophila*.** *Development* 1995, 121:2107-2116. [48†].
- Makabe KW, Kirchhamer CV, Britten RJ, Davidson EH: **Cis-regulatory control of the *SM50* gene, an early marker of skeletogenic lineage specification in the sea urchin embryo.** *Development* 1995, 121:1957-1970.
- Marx J: **Developmental biology - Knocking genes in instead of out.** *Science* 1995, 269:636.
- Millar SE, Miller MW, Stevens ME, Barsh GS: **Expression and transgenic studies of the mouse agouti gene provide insight into the mechanisms by which mammalian coat color patterns are generated.** *Development* 1995, 121:3223-3232.
- Munsterberg AE, Lassar AB: **Combinatorial signals from the neural tube, floor plate and notochord induce myogenic bHLH gene expression in the somite.** *Development* 1995, 121:651-660.
- Nakai S, Kawano H, Yodate T, Nishi M, Kuno J, Nagata A, Jishage K, Hamada H, Fujii H, Kawamura K, Shiba K, Noda T: **The POU domain transcription factor Brn-2 is required for the determination of specific neuronal lineages in the hypothalamus of the mouse.** *Genes Dev* 1995, 9:3109-3121.
- Norris JL, Manley JL: **Regulation of dorsal its cultured cells by Toll and tube: Tube function involves a novel mechanism.** *Genes Dev* 1995, 9:358-369.
- Oka C, Nakano T, Wakeham A, Delapompa JL, Mori C, Sakai T, Okazaki S, Kawauchi M, Shiota K, Mak TW, Honjo T: **Disruption of the mouse RBP-J kappa gene results in early embryonic death.** *Development* 1995, 121:3291-3301.
- Pan DJ, Rubin GM: **cAMP-dependent protein kinase and hedgehog act antagonistically in regulating decapentaplegic transcription in *Drosophila* imaginal discs.** *Cell* 1995, 80:543-552.
- Penny GD, Kay GF, Sheardown SA, Rastan S, Brockdorff • N: **Requirement for *Xist* in X chromosome inactivation.** *Nature* 1996, 379:131-137. [32†].
- Perlmann T, Vennstrom B: **Nuclear receptors - The sound of silence.** *Nature* 1995, 377:387-388.
- Pirrotta V, Chan CS, McCabe D, Qian S: **Distinct parasegmental and imaginal enhancers and the establishment of the expression pattern of the *Ubx* gene.** *Genetics* 1995, 141:1439-1450.
- Riddle RD, Ensini M, Nelson C, Tsuchida T, Jessell TM, Tabin C: **Induction of the LIM homeobox gene *Lmx1* by *WNT7a* establishes dorsoventral pattern in the vertebrate limb.** *Cell* 1995, 83:631-640.
- Riverapom R, Lu XG, Perrimon N, Taubert H, Jackle H: **Activation of posterior gap gene expression in the *Drosophila* blastoderm.** *Nature* 1995, 376:253-256.
- Rose LS, Lamb ML, Hird SN, Kempthorne KJ: • **Pseudocleavage is dispensable for polarity and embryogenesis in *C. elegans* embryos.** *Dev Biol* 1995, 168:479-489. [23].
- Roseman RR, Swan JM, Geyer PK: **A *Drosophila* insulator • protein facilitates dosage compensation of the X chromosome *mini-white* gene located at autosomal insertion sites.** *Development* 1995, 121:3573-3582. [19†].
- Sauer F, Hansen SK, Tjian R: **Multiple TAF(II)s directing synergistic activation of transcription.** *Science* 1995, 270:1783-1788.
- Sauer F, Hansen SK, Tjian R: **DNA template and activator-coactivator requirements for transcriptional synergism by *Drosophila* bicoid.** *Science* 1995, 270:1825-1828.
- Sekelsky JJ, Newfield SJ, Raftery LA, Chertoff EH, • Gelbart WM: **Genetic characterization and cloning of *Mothers against dpp*, a gene required for decapentaplegic function in *Drosophila melanogaster*.** *Genetics* 1995, 139:1347-1358. [63†].
- Shashikant CS, Biebrich CJ, Belting HG, Wang JCH, Borbely MA, Ruddle FH: **Regulation of *Hoxc-8* during mouse embryonic development: Identification and characterization of critical elements involved in early neural tube expression.** *Development* 1995, 121:4339-4347.
- Sheets MD, Wu M, Wickens M: **Polyadenylation of c-mos mRNA as a control point in *Xenopus* meiotic maturation.** *Nature* 1995, 374:511-516.
- Staehling-Hampton K, Laughon AS, Hoffmann FM: **A • *Drosophila* protein related to the human zinc finger transcription factor PRDII/MBP1/HIV-EP1 is required for dpp signaling.** *Development* 1995, 121:3393-3403. [65†].
- St Johnston D: **The intracellular localization of messenger RNAs.** *Cell* 1995, 81:161-170.
- St Johnston D: **Developmental biology - New role for tropomyosin.** *Nature* 1995, 377:483.
- Strome S, Martin P, Schierenberg E, Paulsen J: • **Transformation of the germ line into muscle in *mes-1* mutant embryos of *C. elegans*.** *Development* 1995, 121:2961-2972. [41].
- Subramanian V, Meyer BI, Gruss P: **Disruption of the murine homeobox gene *Cdx1* affects axial skeletal identities by altering the mesodermal expression domains of Hox genes.** *Cell* 1995, 83:641-653.
- Sun YH, Tsai CJ, Green MM, Chao JL, Yu CT, Jaw TJ, Yeh JY, Bolshakov VN: **white as a reporter gene to detect transcriptional silencers specifying position-specific gene expression during *Drosophila melanogaster* eye development.** *Genetics* 1995, 141:1075-1086.
- Szabo PE, Mann JR: **Allele-specific expression and total expression levels of imprinted genes during early mouse development: Implications for imprinting mechanisms.** *Genes Dev* 1995, 9:3097-3108.
- Threadgill DW, Dlugosz AA, Hansen LA, Tennentbaum T, Licht U, Yee D, Lamantia C, Mourtou T, Herrup K, Harris RC, Barnard JA, Yuspa SH, Coffey RJ, Magnuson T: **Targeted disruption of mouse EGF receptor: Effect of genetic background on mutant phenotype.** *Science* 1995, 269:230-234.
- Tuck S, Greenwald I: **lin-25, a gene required for vulval induction in *Caenorhabditis elegans*.** *Genes Dev* 1995, 9:341-357.
- Vaughan PS, Aziz F, Vanwijnen AJ, Wu SJ, Harada H, Taniguchi T, Soprano KJ, Stein JL, Stein GS: **Activation of a cell-cycle-regulated histone gene by the oncogenic transcription factor IRF-2.** *Nature* 1995, 377:362-365.
- Ward JG, Davis MC, Allis CD, Herrick GC: **Effects of nullisomic chromosome deficiencies on conjugation events in *Tetrahymena thermophila*: Insufficiency of the parental macronucleus to direct postzygotic development.** *Genetics* 1995, 140:989-1005.
- Warren RW, Nagy L, Selegue J, Gates J, Carroll S: **Evolution of homeotic gene regulation and function in flies and butterflies (vol 372, pg 458, 1994).** *Nature* 1995, 373:451.
- Williams N: **Dosage compensation - How males and females achieve X equality.** *Science* 1995, 269:1826-1827.
- Wilson DS, Desplan C: **Homeodomain proteins: Cooperating to be different.** *Curr Biol* 1995, 5:32-34.
- Witta SE, Agarwal VR, Sato SM: **XIPOU 2, a noggin-inducible gene, has direct neuralizing activity.** *Development* 1995, 121:721-730.
- Wolff C, Sommer R, Schroder R, Glaser G, Tautz D: **Conserved and divergent expression aspects of the *Drosophila* segmentation gene hunchback in the short germ band embryo of the flour beetle *Tribolium*.** *Development* 1995, 121:4227-4236.
- Wong A, Boutsis P, Hekimi S: **Mutations in the *clk-1* gene of *Caenorhabditis elegans* affect developmental and behavioral timing.** *Genetics* 1995, 139:1247-1259.
- Wu CT, Howe M: **A genetic analysis of the Suppressor 2 of zeste complex of *Drosophila melanogaster*.** *Genetics* 1995, 140:139-181.
- Xu QL, Allidus G, Holder N, Wilkinson DG: **Expression of truncated *Sek-1* receptor tyrosine kinase disrupts the segmental restriction of gene expression in the *Xenopus* and zebrafish hindbrain.** *Development* 1995, 121:4005-4016.
- Yasuda GK, Schubiger G, Wakimoto BT: **Genetic characterization of *ms (3) K81*, a paternal effect gene of *Drosophila melanogaster*.** *Genetics* 1995, 140:219-229.
- Zhou S, Yang Y, Scott MJ, Eisen A, Koonin EV, Fouts • DL, Wrightsman R, Manning JE, Lucchesi JC: **Male-specific lethal 2, a dosage compensation gene of *Drosophila*, undergoes sex-specific regulation and encodes a protein with a RING finger and a metallothionein-like cysteine cluster.** *EMBO J* 1995, 14:2884-2895. [5†].

## Evolution and development

Related reviews: Conservation of dorsal-ventral patterning in arthropods and chordates (pp 424-431); Neo-Darwinian developmental evolution: can we bridge the gap between pattern and process? (pp 502-508)†

- Akashi H: **Inferring weak selection from patterns of • polymorphism and divergence at 'silent' sites in *Drosophila* DNA.** *Genetics* 1995, 139:1067-1076. [53†].
- Averof M, Akam M: **Hox genes and the diversification • of insect and crustacean body plans.** *Nature* 1995, 376:420-423. [23†].
- Burke AC, Nelson CE, Morgan BA, Tabin C: ***Hox* genes • and the evolution of vertebrate axial morphology.** *Development* 1995, 121:333-346. [25†].
- Carroll SB: **Homeotic genes and the evolution of arthropods and chordates.** *Nature* 1995, 376:479-485.
- Carroll SB, Weatherbee SD, Langeland JA: **Homeotic genes and the regulation and evolution of insect wing number.** *Nature* 1995, 375:58-61.
- Castelli-Gair J, Akam M: **How the Hox gene *Ultrabithorax* • specifies two different segments: the significance of spatial and temporal regulation within metameres.** *Development* 1995, 121:2973-2982. [30†].
- Charlesworth B: **The evolution of chromosomal sex determination and dosage compensation.** *Curr Biol* 1996, 6:149-162.
- Chen JY, Edgecombe GD, Ramskold L, Zhou GC: **Head segmentation in Early Cambrian Fuxianhula:**

- Implications for arthropod evolution. *Science* 1995, 268:1339-1343.
- Curtis D, Apfeld J, Lehmann R: **Nanos is an evolutionarily conserved organizer of anterior-posterior polarity.** *Development* 1995, 121:1899-1910.
- Davis AW, Roote J, Morley T, Sawamura K, Herrmann S, Ashburner M: **Rescue of hybrid sterility in crosses between *D. melanogaster* and *D. simulans*.** *Nature* 1996, 380:157-159. [57].
- Davis AW, Wu C-I: **The broom of the sorcerer's apprentice: how many genes cause reproductive isolation between sibling species?** *Genetics* 1996, in press. [55].
- Gibson G, Hogness DS: **Effect of polymorphism in the *Drosophila* regulatory gene *Ultrathorax* on homeotic stability.** *Science* 1996, 271:200-203. [48].
- Grens A, Mason E, Marsh JL, Bode HR: **Evolutionary conservation of a cell fate specification gene: The Hydra achaete-scute homolog has proneural activity in *Drosophila*.** *Development* 1995, 121:4027-4035.
- Hawley SHB, Wünnenberg-Stapleton K, Hashimoto C, Laurent MN, Watabe T, Blumberg BW, Cho KWY: **Disruption of BMP signals in embryonic *Xenopus* ectoderm leads to direct neural induction.** *Genes Dev* 1995, 9:2923-2935. [54].
- Holland PWH, Koschorz B, Holland LZ, Herrmann BG: **Conservation of Brachyury(T) genes in amphioxus and vertebrates: Developmental and evolutionary implications.** *Development* 1995, 121:4283-4291.
- Holley SA, Jackson PD, Sasai Y, Lu B, De Robertis EM, Hoffmann FM, Ferguson EL: **A conserved system for dorsal-ventral patterning in insects and vertebrates involving *sog* and *chordin*.** *Nature* 1995, 376:249-253. [16].
- Hoodless PA, Haerry T, Abdollah S, Stapleton M, O'Connor MB, Attisano L, Wrana JL: **MADRI, a MAD-related protein that functions in BMP2 signaling pathways.** *Cell* 1996, 85:489-500. [71].
- Long AD, Mullaney SL, Reid LA, Fry JD, Langley CH, Mackay TFC: **High resolution mapping of genetic factors affecting abdominal bristle number in *Drosophila melanogaster*.** *Genetics* 1995, 139:1273-1291. [44].
- Nellen D, Burke R, Struhl G, Basler K: **Direct and long-range action of a DPP morphogen gradient.** *Cell* 1996, 85:357-368. [14].
- Nelson CE, Tabin C: **Developmental biology - Footnote on limb evolution.** *Nature* 1995, 375:630-631.
- Panganiban G, Sebring A, Nagy L, Carroll S: **The development of crustacean limbs and the evolution of arthropods.** *Science* 1995, 270:1363-1366. [24].
- Reem-Kalma Y, Lamb T, Frank D: **Competition between noggin and bone morphogenetic protein 4 activities may regulate dorsalization during *Xenopus* development.** *Proc Natl Acad Sci U S A* 1995, 92:12141-12145. [34].
- Sasai Y, Lu B, Steinbeisser H, De Robertis EM: **Regulation of neural induction by the *Chd* and *Bmp-4* antagonistic patterning signals in *Xenopus*.** *Nature* 1995, 376:333-336. [28].
- Schmidt JE, Francois V, Bier E, Kimelman D: ***Drosophila* short gastrulation induces an ectopic axis in *Xenopus*: evidence for conserved mechanisms of dorsal-ventral patterning.** *Development* 1995, 121:4319-4328. [41].
- Schmidt JE, Suzuki A, Ueno N, Kimelman D: **Localized BMP-4 mediates dorsal/ventral patterning in the early *Xenopus* embryo.** *Dev Biol* 1995, 169:37-50. [33].
- Sordino P, Vanderhoeven F, Duboule D: **Hox gene expression in teleost fins and the origin of vertebrate digits.** *Nature* 1995, 375:678-681.
- Steinbeisser H, Fainsod A, Niehrs C, Sasai Y, De Robertis EM: **The role of *gsc* and *Bmp-4* in dorsal-ventral patterning of the marginal zone in *Xenopus*: a loss of function study using antisense RNA.** *EMBO J* 1995, 14:5230-5243. [48].
- Tautz D: **Selector genes, polymorphisms, and evolution.** *Science* 1996, 271:160-161.
- Warren RV, Nagy L, Selegue J, Gates J, Carroll S: **Evolution of homeotic gene regulation and function in flies and butterflies (vol 372, pg 458, 1994).** *Nature* 1995, 373:451.
- Williams TA, Nagy LM: **Arthropod evolution: Brine shrimp add salt to the stew.** *Curr Biol* 1995, 5:1330-1333.
- Wilson PA, Hemmati-Brivanlou A: **Induction of epidermis and inhibition of neural fate by *Bmp-4*.** *Nature* 1995, 376:331-333. [51].
- Wray GA: **Punctuated evolution of embryos.** *Science* 1995, 267:1115-1116.
- Yoon CH, Lee JH, Jongeward GD, Sternberg PW: **Similarity of *sli-1*, a regulator of vulval development in *C. elegans*, to the mammalian proto-oncogene *c-bcl*.** *Science* 1995, 269:1102-1105.
- ## Organogenesis
- Related reviews: Bone morphogenetic proteins in development (pp 432-438); Defining the regulatory networks for muscle development (pp 445-453); Vertebrate heart development (pp 454-460); Regulation of  $\beta$ -globin gene expression: straightening out the locus (pp 488-495)
- Alkema MJ, Vanderlugt NMT, Bobeldijk RC, Berns A, Vanlohuizen M: **Transformation of axial skeleton due to overexpression of *bmi-1* in transgenic mice.** *Nature* 1995, 374:724-727.
- Arora K, dai H, Kazuko SG, Jamal J, O'Connor MB, Letsou A, Warrior R: **The *Drosophila schnurri* gene acts in the Dpp/TGF $\beta$  signaling pathway and encodes a transcription factor homologous to the human MBP family.** *Cell* 1995, 81:781-790. [28].
- Beg AA, Sha WC, Bronson RT, Ghosh S, Baltimore D: **Embryonic lethality and liver degeneration in mice lacking the RelA component of NF-kappa B.** *Nature* 1995, 376:167-170.
- Bellusci S, Henderson R, Winnick G, Oikawa T, Hogan BLM: **Evidence from normal expression and targeted misexpression that bone morphogenetic protein-4 (*Bmp-4*) plays a role in mouse embryonic lung morphogenesis.** *Development* 1996, in press. [53].
- Bladt F, Riethmacher D, Isenmann S, Aguzzi A, Birchmeier C: **Essential role for the *c-met* receptor in the migration of myogenic precursor cells into the limb bud.** *Nature* 1995, 375:768-771. [148].
- Bour BA, O'Brien MA, Lockwood WL, Goldstein ES, Bodmer R, Taghert PH, Abmayr SM, Nguyen HT: ***Drosophila* MEF2, a transcription factor that is essential for myogenesis.** *Genes Dev* 1995, 9:730-741. [49].
- Boyle M, Dinardo S: **Specification, migration and assembly of the somatic cells of the *Drosophila* gonad.** *Development* 1995, 121:1815-1825.
- Braun T, Arnold H: **myf5 and myoD genes are activated in distinct mesenchymal stem cells and determine different skeletal muscle cell lineages.** *EMBO J* 1996, 15:310-318. [34].
- Bungert J, Dave U, Lim K-C, Liew KH, Shavit JA, Liu Q, Engel JD: **Synergistic regulation of human  $\beta$ -globin gene switching by locus control region elements HS3 and HS4.** *Genes Dev* 1995, 9:3083-3096. [24].
- Campbell G, Tomlinson A: **Initiation of the proximodistal axis in insect legs.** *Development* 1995, 121:619-628.
- Carroll JM, Romero MR, Watt FM: **Suprabasal integrin expression in the epidermis of transgenic mice results in developmental defects and a phenotype resembling psoriasis.** *Cell* 1995, 83:957-968.
- Cary RB, Klymkowsky MW: **Disruption of intermediate filament organization leads to structural defects at the intersomite junction in *Xenopus* myotomal muscle.** *Development* 1995, 121:1041-1052.
- Chan DC, Laufer E, Tabin C, Leder P: **Polydactylous limbs in *Strong's* *Xenopus* limb bud result from ectopic polarizing activity.** *Development* 1995, 121:1971-1978.
- Coates M: **Limb evolution - Fish fins or tetrapod limbs - A simple twist of fate?** *Curr Biol* 1995, 5:844-848.
- Cohn MJ, Izpisua Belmonte JC, Abud H, Heath JK, Tickle C: **Fibroblast growth factors induce additional limb development from the flank of chick embryos.** *Cell* 1995, 80:739-746.
- Cooke J: **Vertebrate embryo handedness [Letter].** *Nature* 1995, 374:681.
- Couso JP, Knust E, Arias AM: **Serrate and wingless cooperate to induce vestigial gene expression and wing formation in *Drosophila*.** *Curr Biol* 1995, 5:1437-1448.
- Crossley PH, Minowada G, MacArthur CA, Martin GR: **Roles for FGF8 in the induction, initiation, and maintenance of chick limb development.** *Cell* 1996, 84:127-136.
- Danos MC, Yost HJ: **Linkage of cardiac left-right asymmetry and dorsal anterior development in *Xenopus*.** *Development* 1995, 121:1467-1474. [26].
- Davis AP, Witte DP, Hsieh H, Potter SS, Capecchi MR: **Absence of radius and ulna in mice lacking *hoxa-11* and *hoxd-11*.** *Nature* 1995, 375:791-795.
- Dudley AT, Lyons KM, Robertson EJ: **A requirement for bone morphogenetic protein-7 during development of the mammalian kidney and eye.** *Genes Dev* 1995, 9:2795-2807. [13].
- Ekstrom TJ, Cui HM, Ohlsson R: **Promoter-specific IGF2 imprinting status and its plasticity during human liver development.** *Development* 1995, 121:309-316.
- Eriebacher A, Filvaroff EH, Gitelman SE, Derynck R: **Toward a molecular understanding of skeletal development.** *Cell* 1995, 80:371-378.
- Evans SM, Yan W, Murillo MP, Ponce J, Papalopulu N: ***tinman*, a *Drosophila* homeobox gene required for heart and visceral mesoderm specification, may be represented by a family of genes in vertebrates: *XNkx-2.3*, a second vertebrate homologue of *tinman*.** *Development* 1995, 121:3889-3899. [40].
- Fawcett D, Pasceri P, Fraser R, Colbert M, Rossant J, Giguere V: **Postaxial polydactyly in forelimbs of CRABP-II mutant mice.** *Development* 1995, 121:671-679.
- Festenstein R, Tolaini M, Corbella P, Mamalaki C, Parrington J, Fox M, Miliou A, Jones M, Kiousis D: **Locus control region function and heterochromatin-induced position effect variegation.** *Science* 1996, 271:1123-1125. [48].
- Fiering S, Epner E, Robinson K, Zhuang Y, Telling A, Hu M, Martin DK, Enver T, Ley T, Groudine M: **Targeted deletion of 5'HS2 of the murine  $\beta$ -globin locus reveals that it is not essential for proper regulation of the  $\beta$ -globin locus.** *Genes Dev* 1995, 9:2203-2213. [21].
- Gardiner DM, Blumberg B, Komine Y, Bryant SV: **Regulation of *HoxA* expression in developing and regenerating axolotl limbs.** *Development* 1995, 121:1731-1741.
- Gassmann M, Casagrande F, Orioli D, Simon H, Lai C, Klein R, Lemke G: **Aberrant neural and cardiac development in mice lacking the ErbB4 neuregulin receptor.** *Nature* 1995, 378:390-394.
- Goodrich LV, Johnson RL, Milenkovic L, McMahon JA, Scott MP: **Conservation of the hedgehog/patched signaling pathway from flies to mice: induction of a mouse patched gene by Hedgehog.** *Genes Dev* 1996, 10:301-312. [54].
- Grépin C, Robitaille L, Antakly T, Nemer M: **Inhibition of transcription factor GATA-4 expression blocks in vitro cardiac muscle differentiation.** *Mol Cell Biol* 1995, 15:4095-4102. [46].
- Grieder NC, Nellen D, Burke R, Basler K, Affolter M: ***Schnurri* is required for *Drosophila* Dpp signaling and encodes a zinc finger protein similar to the mammalian transcription factor PRDII-BF1.** *Cell* 1995, 81:791-800. [26].
- Griffith DL, Keck PC, Sampath TK, Rueger DC, Carlson WD: **Three-dimensional structure of recombinant human osteogenic protein 1: structural paradigm for the transforming growth factor superfamily.** *Proc Natl Acad Sci U S A* 1996, 93:878-883. [7].
- Groisman R, Masutani H, Leibovitch M-P, Robin P, Soudant I, Trouche D, Harel-Bellan A: **Physical interaction between the mitogen-responsive serum response factor and myogenic basic-helix-loop-helix proteins.** *J Biol Chem* 1996, 271:5258-5264. [58].
- Guimaraes MJ, Bazan JF, Zlotnik A, Wiles MV, Grimaldi C, Lee F, Mcclanahan T: **A new approach to the study of haematopoietic development in the yolk sac and embryoid bodies.** *Development* 1995, 121:3335-3346.
- Guo K, Wang J, Andres V, Smith RC, Walsh K: **MyoD-induced expression of p21 inhibits cyclin-dependent kinase activity upon myocyte terminal differentiation.** *Mol Cell Biol* 1995, 15:3823-3829. [29].
- Halevy O, Novitch BG, Spicer DB, Skapek SX, Rhee J, Hannon GJ, Beach D, Lassar AB: **Correlation of terminal cell cycle arrest of skeletal muscle with induction of p21 by MyoD.** *Science* 1995, 267:1018-1021. [30].
- Holley SA, Jackson PD, Sasai Y, Lu B, De Robertis EM, Hoffmann FM, Ferguson EL: **A conserved system for dorsal-ventral patterning in insects and vertebrate involving *sog* and *chordin*.** *Nature* 1995, 376:249-253. [38].
- Hug B, Wesselschmidt RL, Fiering S, Bender MA, Groudine M, Ley TJ: **Analysis of mice containing a targeted deletion of the  $\beta$ -globin locus control region 5'HS-3.** *Mol Cell Biol* 1996, 16:2906-2912. [22].
- Imakado S, Bickenbach JR, Bundman DS, Rothnagel JA, Attar PS, Wang XJ, Walczak VR, Wisniewski S, Pote J, Gordon JS, Heyman RA, Evans RM, Roop DR: **Targeting expression of a dominant-negative retinoic acid receptor mutant in the epidermis of transgenic mice results in loss of barrier function.** *Genes Dev* 1995, 9:317-329.
- Jiang J, Struhl G: **Protein kinase A and hedgehog signaling in *Drosophila* limb development.** *Cell* 1995, 80:563-572.
- Jiang Y, Evans T: **The *Xenopus* GATA-4/5/6 genes are associated with cardiac specification and can regulate cardiac-specific transcription during embryogenesis.** *Dev Biol* 1996, 174:258-270. [49].
- Jones CM, Kuehn MR, Hogan BLM, Smith JC, Wright CV: **Nodal-related signals induce axial mesoderm**



- and dorsalize mesoderm during gastrulation. *Development* 1995, 121:3651-3662. [3].
- Kenyon C: A perfect vulva every time: Gradients and signaling cascades in *C. elegans*. *Cell* 1995, 82:171-174.
- Kwee L, Baldwin HS, Shen HM, Stewart CL, Buck C, Buck CA, Labow MA: Defective development of the embryonic and extraembryonic circulatory systems in vascular cell adhesion molecule (VCAM-1) deficient mice. *Development* 1995, 121:489-503.
- Lawrence PA, Bodmer R, Vincent JP: Segmental patterning of heart precursors in *Drosophila*. *Development* 1995, 121:4303-4308.
- Lee KF, Simon H, Chen H, Bates B, Hung MC, Hauser C: Requirement for neuregulin receptor erbB2 in neural and cardiac development. *Nature* 1995, 378:394-398.
- Levin M, Johnson RL, Stern CD, Kuehn M, Tabin C: A
- molecular pathway determining left-right asymmetry in chick embryogenesis. *Cell* 1995, 82:803-814. [56].
- Levin M, Johnson RL, Stern CD, Kuehn M, Tabin C:
- A molecular pathway determining left-right asymmetry in chick embryogenesis. *Cell* 1995, 82:803-814. [27].
- Li SW, Prockop DJ, Helminen H, Fassler R, Lapveteläinen T, Kiraly K, Peltari A, Arokoski J, Lui H, Arita M et al: Transgenic mice with targeted inactivation of the Col2a1 gene for collagen II develop a skeleton with membranous and periosteal bone but no endochondral bone. *Genes Dev* 1995, 9:2821-2830.
- Li Y, Lacerda DA, Warman ML, Beier DR, Yoshioka H, Ninomiya Y, Oxford JT, Morris NP, Andrikopoulos K, Ramirez F, Wardell BB, Liffert GD, Teuscher C, Woodward SR, Taylor BA, Seegmiller RE, Olsen BR: A fibrillar collagen gene, Col1a1, is essential for skeletal morphogenesis. *Cell* 1995, 80:423-430.
- Liem JKF, Tremml G, Roelink H, Jessell TM: Dorsal
- differentiation of neural plate cells induced by BMP-mediated signals from epidermal ectoderm. *Cell* 1995, 82:969-979. [50].
- Lilly B, Zhao B, Ranganayakulu G, Paterson BM, Schulz
- RA, Olson EN: Requirement of MADS domain transcription factor D-MEF2 for muscle formation in *Drosophila*. *Science* 1995, 267:688-693. [48].
- Lopezmantez A, Chang DT, Chiang C, Porter JA, Ros MA, Simandl BK, Beachy PA, Fallon JF: Limb-patterning activity and restricted posterior localization of the amino-terminal product of Sonic hedgehog cleavage. *Curr Biol* 1995, 5:791-796.
- Luo G, Hofmann C, Bronckers ALJJ, Sohocki M, Bradley A,
- Karsenty G: BMP-7 is an inducer of nephrogenesis, and is also required for eye development and skeletal patterning. *Genes Dev* 1995, 9:2808-2820. [14].
- Lyons I, Parsons LM, Hartley L, Li R, Andrews JE, Robb L,
- Harvey RP: Myogenic and morphogenetic defects in the heart tubes of murine embryos lacking the homeobox gene *Nkx2-5*. *Genes Dev* 1995, 9:1654-1666. [36].
- Mahmood R, Bresnick J, Hornbruch A, Mahony C, Morton N, Colquhoun K, Martin P, Lumsden A, Dickinson C, Mason I: A role for FGF-8 in the initiation and maintenance of vertebrate limb bud outgrowth. *Curr Biol* 1995, 5:797-806.
- Makabe KW, Kirchhamer CV, Britten RJ, Davidson EH: Cis-regulatory control of the *SM50* gene, an early marker of skeletogenic lineage specification in the sea urchin embryo. *Development* 1995, 121:1957-1970.
- Manley NR, Capocchi MR: The role of *Hoxa-3* in mouse thymus and thyroid development. *Development* 1995, 121:1989-2003.
- Martin GR: Developmental biology - Why thumbs are up. *Nature* 1995, 374:410-411.
- Mishina Y, Susuki A, Ueno N, Behringer RR: *Bmpr*
- encodes a type I bone morphogenetic protein receptor that is essential for gastrulation during mouse embryogenesis. *Genes Dev* 1995, 9:3027-3037. [15].
- Molkentin JD, Black BL, Martin JF, Olson EN: Cooperative
- activation of muscle gene expression by MEF2 and myogenic bHLH proteins. *Cell* 1995, 83:1125-1136. [56].
- Molkentin JD, Firulli AB, Black BL, Martin JF, Hustad CM,
- Copeland N, Jenkins N, Lyons G, Olson EN: *MEF2B* is a potent transactivator expressed in early myogenic lineages. *Mol Cell Biol* 1996, in press. [43].
- Munsterberg AE, Kitajewski J, Bumcrot DA, McMahon
- AP, Lassar AB: Combinatorial signaling by sonic hedgehog and Wnt family members induces myogenic bHLH gene expression in the somite. *Genes Dev* 1995, 9:2911-2922. [10].
- Nascone N, Mercola M: An inductive role for the endoderm in *Xenopus* cardiogenesis. *Development* 1995, 121:515-523.
- Nascone N, Mercola M: An inductive role for the
- endoderm in *Xenopus* cardiogenesis. *Development* 1995, 121:515-523. [22].
- Nelson CE, Tabin C: Developmental biology - Footnote on limb evolution. *Nature* 1995, 375:630-631.
- Okuda T, Vandeursen J, Hiebert SW, Grosveld G, Downing JR: AML1, the target of multiple chromosomal translocations in human leukemia, is essential for normal fetal liver hematopoiesis. *Cell* 1996, 84:321-330.
- Okuda T, Vandeursen J, Hiebert SW, Grosveld G, Downing JR: AML1, the target of multiple chromosomal translocations in human leukemia, is essential for normal fetal liver hematopoiesis. *Cell* 1996, 84:321-330.
- Parker S, Eichele G, Zhang P, Rawls A, Sands AT,
- Bradley A, Olson EN, Harper JW, Elledge SJ: p53-independent expression of p21 Cip1 in muscle and other terminally differentiating cells. *Science* 1995, 267:1024-1027. [31].
- Patapoutian A, Yoon JK, Miner JH, Wang SL, Stark K, Wold B: Disruption of the mouse *MRF4* gene identifies multiple waves of myogenesis in the myotome. *Development* 1995, 121:3347-3358.
- Peterson KR, Clegg CH, Navas PA, Norton EJ, Kimbrough
- TG, Stamatoyanopoulos G: Effect of deletion of 5'HS3 or 5'HS2 of the human  $\beta$ -globin LCR on the developmental regulation of globin gene expression in  $\beta$ -YAC transgenic mice. *Proc Natl Acad Sci U S A* 1996, 93:6605-6609. [25].
- Pourquie O, Fan C, Coltey M, Hirsinger E, Watanabe Y,
- Breant C, Francis-West P, Brickell P, Tessier-Lavigne M, Le Douarin NM: Lateral and axial signals involved in avian somite patterning: a role for BMP4. *Cell* 1996, 84:461-471. [12].
- Ranganayakulu G, Zhao B, Dokidis A, Molkentin JD, Olson
- EN, Schulz RA: A series of mutations in the D-MEF2 transcription factor reveals multiple functions in larval and adult myogenesis in *Drosophila*. *Dev Biol* 1995, 171:169-181. [50].
- Roberts DJ, Johnson RL, Burke AC, Nelson CE, Morgan
- BA, Tabin C: Sonic hedgehog is an endodermal signal inducing *Bmp-4* and *Hox* genes during induction and regionalization of the chick hindgut. *Development* 1995, 121:3163-3174. [33].
- Robertson G, Garrick D, Wenlian W, Kearns M, Martin
- DIK, Whitelaw E: Position-dependent variegation of globin transgene expression in mice. *Proc Natl Acad Sci U S A* 1995, 92:5371-5375. [46].
- Ruberte E, Marty T, Nellen D, Affolter M, Basler K: An
- absolute requirement for both the Type II and Type I receptors, *punt* and *thick veins*, for dpp signaling in vivo. *Cell* 1995, 80:889-897. [24].
- Rushton E, Drysdale R, Abmayr SM, Michelson AM, Bate M: Mutations in a novel gene, *myoblast cell*, provide evidence in support of the founder cell hypothesis for *Drosophila* muscle development. *Development* 1995, 121:1979-1988.
- Saitou M, Sugai S, Tanaka T, Shimouchi K, Fuchs E, Narumiya S, Kikizuka A: Inhibition of skin development by targeted expression of a dominant-negative retinoic acid receptor. *Nature* 1995, 374:159-162.
- Sasai Y, Lu B, Steinbeisser H, De Robertis EM: Regulation
- of neural induction by the *Chd* and *Bmp-4* antagonistic patterning signals in *Xenopus*. *Nature* 1995, 376:333-337. [37].
- Schnabel R: Duels without obvious sense: Counteracting inductions involved in body wall muscle development in the *Caenorhabditis elegans* embryo. *Development* 1995, 121:2219-2232.
- Schrick JJ, Dickinson ME, Hogan BLM, Selby PB, Woychik RP: Molecular and phenotypic characterization of a new mouse insertional mutation that causes a defect in the distal vertebrae of the spine. *Genetics* 1995, 140:1061-1067.
- Schultheiss TM, Xydias S, Lassar A: Induction of avian
- cardiac myogenesis by anterior endoderm. *Development* 1995, 121:4203-4214. [11].
- Shalaby F, Rossant J, Yamaguchi TP, Gertsenstein M, Wu XF, Breitman ML, Schuh AC: Failure of blood-island formation and vasculogenesis in *Flk-1*-deficient mice. *Nature* 1995, 376:62-66.
- Sibilia M, Wagner EF: Strain-dependent epithelial defects in mice lacking the EGF receptor. *Science* 1995, 269:234-238.
- Skeelsky JJ, Newfield SJ, Raftery LA, Chartoff EH,
- Gelbert WM: Genetic characterization and cloning of *mothers against dpp*, a gene required for decapentaplegic function in *Drosophila melanogaster*. *Genetics* 1995, 139:1347-1358. [29].
- Smith WC, McKendry R, Ribisi Jr S, Harland RM:
- A nodal-related gene defines a physical and functional domain within the Spemann organizer. *Cell* 1995, 82:37-46. [2].
- Sordino P, Vanderhoeven F, Duboule D: Hox gene expression in teleost fins and the origin of vertebrate digits. *Nature* 1995, 375:678-681.
- Srivastava D, Cserjesi P, Olson EN: A subclass of bHLH
- proteins required for cardiac morphogenesis. *Science* 1995, 270:1995-1999. [55].
- Staebling-Hampton K, Laughon AS, Hoffmann FM: A
- *Drosophila* protein related to the human zinc finger transcription factor PRDII/MBPI/HIV-EP1 is required for dpp signaling. *Development* 1995, 121:3393-3403. [27].
- Stainier DYR, Fouquet B, Chen J-N, Warren KS, Weinstein BM, Meier S, Mohideen MPK, Neuhaus SCF, Solnica-Krezel L, Schier AF et al: Mutations affecting the formation and function of the cardiovascular system in the zebrafish embryo. *Development* 1996, in press. [62].
- Stanworth SJ, Roberts NA, Sharpe JA, Sloane-Stanley JA,
- Wood WG: Established epigenetic modifications determine the expression of developmentally regulated globin genes in somatic cell hybrids. *Mol Cell Biol* 1995, 15:3969-3978. [35].
- Stern HM, Brown AMC, Hauschka SD: Myogenesis
- in paraxial mesoderm: Preferential induction by dorsal neural tube and by cells expressing Wnt-1. *Development* 1995, 121:3675-3686. [4].
- Sturtevant MA, Bier E: Analysis of the genetic hierarchy guiding wing vein development in *Drosophila*. *Development* 1995, 121:785-801.
- Sugi Y, Lough J: Activin-A and FGF-2 mimic the inductive
- effects of anterior endoderm on terminal cardiac myogenesis in vitro. *Dev Biol* 1995, 168:567-574. [12].
- Sumarsono SH, Wilson TJ, Tymms MJ, Venter DJ, Corrick CM, Kola R, Lahoud MH, Papas TS, Seth A, Kola I: Down's syndrome-like skeletal abnormalities in *Ets2* transgenic mice. *Nature* 1996, 379:534-537.
- Tabata T, Schwartz C, Gustavson E, Ali Z, Kornberg TB: Creating a *Drosophila* wing de novo, the role of engrailed, and the compartment border hypothesis. *Development* 1995, 121:3359-3369.
- Tabin C: The initiation of the limb bud: Growth factors, Hox genes, and retinoids. *Cell* 1995, 80:671-674.
- Tanaka EM, Gann AAF: Limb development: The budding role of FGF. *Curr Biol* 1995, 5:594-597.
- Threadgill DW, Dlugosz AA, Hansen LA, Tennenbaum T, Lichti U, Yee D, Lamantia C, Mourton T, Herrup K, Harris RC, Barnard JA, Yuspa SH, Coffey RJ, Magnuson T: Targeted disruption of mouse EGF receptor: Effect of genetic background on mutant phenotype. *Science* 1995, 269:230-234.
- Torres M, Gomezpardo E, Dressler GR, Gruss P: Pax-2 controls multiple steps of urogenital development. *Development* 1995, 121:4057-4065.
- Vahtokari A, Abert T, Jernvall J, Keranen S, Thesleff I: The
- enamel knot as a signaling center in the developing mouse tooth. *Mech Dev* 1996, 54:39-43. [52].
- Walters MC, Magis W, Fiering S, Eidemiller J, Scalzo D,
- Groudine M, Martin DIK: Transcriptional enhancers act in cis to suppress position-effect variegation. *Genes Dev* 1996, 10:185-195. [44].
- Weil M, Itin A, Keshet E: A role for mesenchyme-derived tachykinins in tooth and mammary gland morphogenesis. *Development* 1995, 121:2419-2428.
- Wijgerde M, Grosfeld F, Fraser P: Transcription complex
- stability and chromatin dynamics in vivo. *Nature* 1995, 377:209-213. [37].
- Wilder EL, Perrimon N: Dual functions of wingless in the *Drosophila* leg imaginal disc. *Development* 1995, 121:477-488.
- Wilson PA, Hemmati-Brivanlou A: Induction of epidermis
- and inhibition of neural fate by *Bmp-4*. *Nature* 1995, 376:331-333. [46].
- Winnier G, Blessing M, Labosky PA, Hogan BLM: Bone morphogenetic protein-4 is required for mesoderm formation and patterning in the mouse. *Genes Dev* 1995, 9:2105-2116.
- Winnier G, Blessing M, Labosky PA, Hogan BLM: Bone
- morphogenetic protein-4 is required for mesoderm formation and patterning in the mouse. *Genes Dev* 1995, 9:2105-2116. [12].
- Yoon CH, Lee JH, Jongeward GD, Sternberg PW: Similarity of *slit-1*, a regulator of vulval development in *C. elegans*, to the mammalian proto-oncogene *c-cbl*. *Science* 1995, 269:1102-1105.

## Cell interactions: movement, signalling, lineages, cycling and death

Related reviews: Early mouse development: lessons from gene targeting (pp 439–444); Fishing for genes controlling development (pp 461–468)<sup>†</sup>

- Acampora D, Mazan S, Lallemand Y, Avantaggiato V, Maury M, Simeone A, Brulet P: Forebrain and midbrain regions are deleted in *Otx2*<sup>-/-</sup> mutants due to a defective anterior neuroectoderm specification during gastrulation. *Development* 1995, 121:3279–3290. [28].
- Amsterdam A, Lin S, Hopkins N: The *Aequorea victoria* green fluorescent protein can be used as a reporter in live zebrafish embryos. *Dev Biol* 1996, 171:123–129. [83].
- Andersen B, Rosenfeld MG: Intracellular receptors - New wrinkles in retinoids. *Nature* 1995, 374:118–119.
- Anderson K: One signal, two body axes. *Science* 1995, 269:489–490.
- Ang S-L, Jin O, Rhinn M, Daigle N, Stevenson L, Rossant J: A targeted mouse *Otx2* mutation leads to severe defects in gastrulation and formation of axial mesoderm and to deletion of rostral brain. *Development* 1996, 122:243–252. [29].
- Arora K, Dai H, Kazuko SG, Jamal J, O'Connor MB, Letsou A, Warrior R: The *Drosophila* *schnurri* gene acts in the dpp/TGF beta signaling pathway and encodes a transcription factor homologous to the human MBP family. *Cell* 1995, 81:781–790.
- Artavanisakonas S, Matsuno K, Fortini ME: Notch signalling. *Science* 1995, 268:225–232.
- Bailey AM, Posakony JW: Suppressor of hairless directly activates transcription of enhancer of split complex genes in response to notch receptor activity. *Genes Dev* 1995, 9:2609–2622.
- Barinaga M: Receptors find work as guides - New evidence suggests that a large new family of receptor protein tyrosine kinases helps developing neurons to make the right connections in the brain. *Science* 1995, 269:1668–1670.
- Barth KA, Wilson SV: Expression of zebrafish *nk2.2* is influenced by sonic hedgehog/vertebrate hedgehog-1 and demarcates a zone of neuronal differentiation in the embryonic forebrain. *Development* 1995, 121:1755–1768.
- Behrendtsen O, Alexander CM, Werb Z: Cooperative interactions between extracellular matrix, integrins and parathyroid hormone-related peptide regulate parietal endoderm differentiation in mouse embryos. *Development* 1995, 121:4137–4148.
- Beitel GJ, Tuck S, Greenwald I, Horvitz HR: The *Caenorhabditis elegans* gene *lin-1* encodes an ETS-domain protein and defines a branch of the vulval induction pathway. *Genes Dev* 1995, 9:3149–3162.
- Birgbauer E, Sechrest J, Bronnerfraser M, Fraser S: Rhombomeric origin and rostrocaudal reassignment of neural crest cells revealed by intravital microscopy. *Development* 1995, 121:935–945.
- Bladt F, Riethmacher D, Isenmann S, Aguzzi A, Birchmeier C: Essential role for the c-met receptor in the migration of myogenic precursor cells into the limb bud. *Nature* 1995, 376:768–771.
- Blair SS: Developmental biology - Hedgehog digs up an old friend. *Nature* 1995, 373:656–657.
- Boudreau N, Sympton CJ, Werb Z, Bissell MJ: Suppression of ICE and apoptosis in mammary epithelial cells by extracellular matrix. *Science* 1995, 267:891–893.
- Boyle M, Dinardo S: Specification, migration and assembly of the somatic cells of the *Drosophila* gonad. *Development* 1995, 121:1815–1825.
- Brunner T, Mogil RJ, Lafate D, Yoo NJ, Mahboubi A, Echeverri F, Martin SJ, Force WR, Lynch DH, Ware CF, Green DR: Cell-autonomous Fas (CD95)/Fas-ligand interaction mediates activation induced apoptosis in T-cell hybridomas. *Nature* 1995, 373:441–444.
- Callahan CA, Muralidhar MG, Lundgren SE, Scully AL, Thomas JB: Control of neuronal pathway selection by a *Drosophila* receptor protein-tyrosine kinase family member. *Nature* 1995, 376:171–174.
- Cary RB, Klymkowsky MW: Disruption of intermediate filament organization leads to structural defects at the intersomite junction in *Xenopus* myotomal muscle. *Development* 1995, 121:1041–1052.
- Chan DC, Wynshawboris A, Leder P: Formin isoforms are differentially expressed in the mouse embryo and are required for normal expression of *fgf-4* and *shh* in the limb bud. *Development* 1995, 121:3151–3162.
- Chang HY, Takei K, Sydor AM, Born T, Rusnak F, Jay DG: Asymmetric retraction of growth cone filopodia following focal inactivation of calcineurin. *Nature* 1995, 376:686–690.
- Chant J, Stowers L: GTPase cascades choreographing cellular behavior: Movement, morphogenesis, and more. *Cell* 1995, 81:1–4.
- Chen WH, Morrissay GM, Copp AJ: Genesis and prevention of spinal neural tube defects in the curly tail mutant mouse: Involvement of retinoic acid and its nuclear receptors RAR-beta and RAR-gamma. *Development* 1995, 121:681–691.
- Chiba A, Snow P, Keshishian H, Hotta Y: Fasciclin III as a synaptic target recognition molecule in *Drosophila*. *Nature* 1995, 374:166–168.
- Chow RL, Roux GD, Roghani M, Palmer MA, Rifkin DB, Moscatelli DA, Lang RA: FGF suppresses apoptosis and induces differentiation of fibre cells in the mouse lens. *Development* 1995, 121:4383–4393.
- Clark EA, Brugge JS: Integrins and signal transduction pathways: The road taken. *Science* 1995, 268:233–239.
- Cohencory S, Fraser SE: Effects of brain-derived neurotrophic factor on optic axon branching and remodelling in vivo. *Nature* 1995, 378:192–196.
- Condie BG, Capecchi M: Mice with targeted disruptions in the paralogous genes *hoxa-3* and *hoxd-3* reveal synergistic interactions. *Nature* 1994, 370:304–307. [43].
- Cornell RA, Musci TJ, Kimelman D: FGF is a prospective competence factor for early activin-type signals in *Xenopus* mesoderm induction. *Development* 1995, 121:2429–2437.
- Coucouvanis E, Martin GR: Signals for death and survival: A two-step mechanism for cavitation in the vertebrate embryo. *Cell* 1995, 83:279–287.
- Cox WG, Hemmatbravilou A: Caudalization of neural fate by tissue recombination and bFGF. *Development* 1995, 121:4349–4358.
- Craig AM, Wyborski RJ, Banker G: Preferential addition of newly synthesized membrane protein at axonal growth cones. *Nature* 1995, 375:592–594.
- Crossley PH, Martin GR: The mouse *Fgf8* gene encodes a family of polypeptides and is expressed in regions that direct outgrowth and patterning in the developing embryo. *Development* 1995, 121:439–451.
- Cui X, Doe CQ: The role of the cell cycle and cytokinesis in regulating neuroblast sublineage gene expression in the *Drosophila* CNS. *Development* 1995, 121:3233–3243.
- Davis AP, Witte DP, Hsieh-Li HM, Potter SS, Capecchi MR: Absence of radius and ulna in mice lacking *hoxa-11* and *hoxd-11*. *Nature* 1995, 375:791–794. [44].
- Defelipe C, Pinnock RD, Hunt SP: Modulation of chemotropism in the developing spinal cord by substance P. *Science* 1995, 267:899–902.
- Denouij JC, Hariharan IK: Uncoupling cell fate determination from patterned cell division in the *Drosophila* eye. *Science* 1995, 270:983–985.
- Devore DL, Horvitz HR, Stern MJ: An FGF receptor signaling pathway is required for the normal cell migrations of the sex myoblasts in C-elegans hermaphrodites. *Cell* 1995, 83:611–620.
- Dhein J, Walczak H, Baumler C, Debatin KM, Krammer PH: Autocrine T-cell suicide mediated by APO-1/Fas/CD95. *Nature* 1995, 373:438–441.
- Diazbenjumea FJ, Cohen SM: Serrate signals through Notch to establish a Wingless-dependent organizer at the dorsal/ventral compartment boundary of the *Drosophila* wing. *Development* 1995, 121:4215–4225.
- Domingo C, Keller R: Induction of notochord cell intercalation behavior and differentiation by progressive signals in the gastrula of *Xenopus laevis*. *Development* 1995, 121:3311–3321.
- Dudley AT, Lyons KM, Robertson EJ: A requirement for bone morphogenetic protein-7 during development of the mammalian kidney and eye. *Genes Dev* 1995, 9:2795–2807.
- Duyao MP, Auerbach AB, Ryan A, Persichetti F, Barnes GT, McNeil SM, Ge P, Vonsattel J-P, Gusella JF, Joyner AL, MacDonald ME: Inactivation of the mouse Huntington's disease gene homolog *Hdh*. *Science* 1995, 269:407–410. [13].
- Eaton S, Simons K: Apical, basal, and lateral cues for epithelial polarization. *Cell* 1995, 82:5–8.
- Eker SC, Ungar AR, Greenstein P, Vonkessler DP, Porter JA, Moon RT, Beachy PA: Patterning activities of vertebrate hedgehog proteins in the developing eye and brain. *Curr Biol* 1995, 5:944–955.
- Enari M, Hug H, Nagata S: Involvement of an ICE-like protease in Fas-mediated apoptosis. *Nature* 1995, 375:78–81.
- Erickson CA, Goins TL: Avian neural crest cells can migrate in the dorsolateral path only if they are specified as melanocytes. *Development* 1995, 121:915–924.
- Ericson J, Muhr J, Placzek M, Lints T, Jessell TM, Edlund T: Sonic hedgehog induces the differentiation of ventral forebrain neurons: A common signal for ventral patterning within the neural tube. *Cell* 1995, 81:747–756.
- Ericson J, Muhr J, Placzek M, Lints T, Jessell TM, Edlund T: Sonic hedgehog induces the differentiation of ventral forebrain neurons: A common signal for ventral patterning within the neural tube (vol 81, pg 747, 1995). *Cell* 1995, 82:U11.
- Fan CM, Porter JA, Chiang C, Chang DT, Beachy PA, Tessier-Lavigne M: Long-range sclerotome induction by Sonic hedgehog: Direct role of the amino-terminal cleavage product and modulation by the cyclic AMP signaling pathway. *Cell* 1995, 81:457–465.
- Fashena SJ, Zinn K: Cell-cell signaling: The ins and outs of receptor tyrosine phosphatases. *Curr Biol* 1995, 5:1367–1369.
- Ferri RT, Levitt P: Regulation of regional differences in the differentiation of cerebral cortical neurons by EGF family-matrix interactions. *Development* 1995, 121:1151–1160.
- Fetcho JR, O'Malley DM: Visualization of active neural circuits in the spinal cord of intact zebrafish. *J Neurophysiol* 1995, 73:399–406. [66].
- Fietz MF, Jacinto A, Taylor AM, Alexandre C, Ingham PW: Secretion of the amino-terminal fragment of the Hedgehog protein is necessary and sufficient for hedgehog signalling in *Drosophila*. *Curr Biol* 1995, 5:643–650.
- Fishell G: Striatal precursors adopt cortical identities in response to local cues. *Development* 1995, 121:803–812.
- Fisher GH, Rosenberg FJ, Straus SE, Dale JK, Middleton LA, Lin AY, Strober W, Lenardo MJ, Puck JM: Dominant interfering fas gene mutations impair apoptosis in a human autoimmune lymphoproliferative syndrome. *Cell* 1995, 81:935–946.
- Fitzgerald K, Greenwald I: Interchangeability of *Caenorhabditis elegans* DSL proteins and intrinsic signalling activity of their extracellular domains in vivo. *Development* 1995, 121:4275–4282.
- Forman BM, Goode E, Chen J, Oro AE, Bradley DJ, Perlmann T, Noonan DJ, Burke LT, McMorris T, Lamph WW, Evans RM, Weinberger C: Identification of a nuclear receptor that is activated by farnesol metabolites. *Cell* 1995, 81:687–693.
- Fujioka M, Jaynes JB, Goto T: Early even-skipped stripes act as morphogenetic gradients at the single cell level to establish engrailed expression. *Development* 1995, 121:4371–4382.
- Galindo RL, Edwards DN, Gillespie SKH, Wasserman SA: Interaction of the pelle kinase with the membrane-associated protein tube is required for transduction of the dorsoventral signal in *Drosophila* embryos. *Development* 1995, 121:2209–2218.
- Galliot B, Welsch O, Schuckert O, Hoffmeister S, Schaller HC: The cAMP response element binding protein is involved in hydra regeneration. *Development* 1995, 121:1205–1216.
- Gannon M, Bader D: Initiation of cardiac differentiation occurs in the absence of anterior endoderm. *Development* 1995, 121:2439–2450.
- Garrity PA, Zipursky SL: Neuronal target recognition. *Cell* 1995, 83:177–185.
- Gassmann M, Casagrande F, Orioli D, Simon H, Lai C, Klein R, Lemke G: Aberrant neural and cardiac development in mice lacking the ErbB4 neuregulin receptor. *Nature* 1995, 378:390–394.
- Glise B, Bourbon H, Noselli S: hemipterous encodes a novel *Drosophila* MAP kinase kinase, required for epithelial cell sheet movement. *Cell* 1995, 83:451–461.
- Golstein P, Marguet D, Depraetere V: Homology between reaper and the cell death domains of Fas and TNFR1 [Letter]. *Cell* 1995, 81:185–186.
- Gong XH, Dubois DH, Miller DJ, Shur BD: Activation of a G protein complex by aggregation of beta-1,4-galactosyltransferase on the surface of sperm. *Science* 1995, 269:1718–1721.
- Gonzalezgaitan M, Jackle H: Invagination centers within the *Drosophila* stomatogastric nervous system anlage are positioned by Notch-mediated signaling which is spatially controlled through wingless. *Development* 1995, 121:2313–2325.
- Gonzalezgaitan M, Elliott H, Johnston D: Polarization of both major body axes in *Drosophila* by gurken-torpedo signalling. *Nature* 1995, 375:654–658.
- Goodbourn S: Signal transduction - Notch takes a short cut. *Nature* 1995, 377:288–289.
- Goshima Y, Nakamura F, Strittmatter P, Strittmatter SM: Collapsin-induced growth cone collapse mediated



- by an intracellular protein related to UNC-33. *Nature* 1995, 376:509-514.
- Grafi G, Larkins BA: Endoreduplication in maize endosperm: Involvement of M phase-promoting factor inhibition and induction of S phase-related kinases. *Science* 1995, 269:1262-1264.
- Grens A, Mason E, Marsh JL, Bode HR: Evolutionary conservation of a cell fate specification gene: The Hydra achaete-scute homolog has proneural activity in *Drosophila*. *Development* 1995, 121:4027-4035.
- Grether ME, Abrams JM, Agapite J, White K, Steller H: The head involution defective gene of *Drosophila melanogaster* functions in programmed cell death. *Genes Dev* 1995, 9:1694-1708.
- Grieder NC, Nellen D, Burke R, Basler K, Afolter M: schnurri is required for *drosophila* dpp signaling and encodes a zinc finger protein similar to the mammalian transcription factor PRDII-BF1. *Cell* 1995, 81:791-800.
- Gu H, Marth JD, Orban PC, Mossman H, Rajewsky K: • Deletion of a DNA polymerase  $\beta$  gene segment in T cells using cell type-specific gene targeting. *Science* 1994, 265:103-106. [58].
- Guo LF, Degenstein L, Dowling J, Yu QC, Wollmann R, Perman B, Fuchs E: Gene targeting of BPAG1: Abnormalities in mechanical strength and cell migration in stratified epithelia and neurologic degeneration. *Cell* 1995, 81:233-243.
- Gurdon JB, Mitchell A, Mahony D: Direct and continuous assessment by cells of their position in a morphogen gradient. *Nature* 1995, 376:520-521.
- Häcker G, Vaux DL: Apoptosis: A sticky business. *Curr Biol* 1995, 5:622-624.
- Halpern ME, Thisse C, Ho RK, Riggleman B, Trevarrow B, Weinberg ES, Postlethwait JH, Kimmel CB: Cell-autonomous respecification of axial mesoderm in zebrafish floating head mutants. *Development* 1995, 121:4257-4264. [63].
- Hampel A, Eppig JJ: Analysis of the mechanism(s) of metaphase I arrest in maturing mouse oocytes. *Development* 1995, 121:925-933.
- Hanks M, Wurst W, Anson-Cartwright L, Auerbach AB, Joyner A: Rescue of the *En-1* mutant phenotype by replacement of *En-1* with *En-2*. *Science* 1995, 269:679-682. [66].
- Hannigan GE, Leunghagestein J, Fitzgibbon L, Coppolino MG, Radeva G, Filmus J, Bell JC, Dedhar S: Regulation of cell adhesion and anchorage-dependent growth by a new beta-1-integrin-linked protein kinase. *Nature* 1996, 379:91-96.
- Harden N, Loh HY, Chia W, Lim L: Dominant inhibitory version of the small GTP-binding protein Rac disrupts cytoskeletal structures and inhibits developmental cell shape changes in *Drosophila*. *Development* 1995, 121:903-914.
- Hardy A, Richardson MK, Franciswest PH, Rodriguez C, Izpisua Belmonte JC, Duprez D, Wolpert L: Gene expression, polarising activity and skeletal patterning in reagggregated hind limb mesenchyme. *Development* 1995, 121:4329-4337.
- Hawley SHB, Wunnenberg-Stapleton K, Hashimoto C, Laurent MN, Watabe T, Blumberg BW, Cho KWW: Disruption of BMP signals in embryonic *Xenopus* ectoderm leads to direct neural induction. *Genes Dev* 1995, 9:2923-2935.
- Hawley SHB, Wunnenberg-Stapleton K, Hashimoto C, Laurent MN, Watabe T, Blumberg EW, Cho KWW: Disruption of BMP signals in embryonic *Xenopus* ectoderm leads to direct neural induction. *Genes Dev* 1995, 9:2923-2934.
- Hay BA, Wasserman DA, Rubin GM: *Drosophila* homologs of baculovirus inhibitor of apoptosis proteins function to block cell death. *Cell* 1995, 83:1253-1262.
- Hayashi K, Ozawa E: Myogenic cell migration from somites is induced by tissue contact with medial region of the presumptive limb mesoderm in chick embryos. *Development* 1995, 121:661-669.
- Heberlein U, Singh CM, Luk AY, Donohoe TJ: Growth and differentiation in the *Drosophila* eye coordinated by hedgehog. *Nature* 1995, 373:709-711.
- Hengartner MO: Life and death decisions: ced-9 and programmed cell death in *Caenorhabditis elegans*. *Science* 1995, 270:931.
- Henion PD, Raible DW, Beattie CE, Stoesser KL, Weston JA, Eisen JS: Screen for mutations affecting development of zebrafish neural crest. *Dev Genet* 1996, 11:11-17. [79].
- Henkemeyer M, Rossi DJ, Holmard DP, Puri MC, Mbamalu G, Harpal K, Shih TS, Jacks T, Pawson T: Vascular system defects and neuronal apoptosis in mice lacking Ras GTPase-activating protein. *Nature* 1995, 377:695-701.
- Henrique D, Adam J, Myat A, Chitnis A, Lewis J, Ishhorowicz D: Expression of a Delta homologue in prospective neurons in the chick. *Nature* 1995, 375:787-790.
- Herrup K, Bussier JC: The induction of multiple cell cycle events precedes target-related neuronal death. *Development* 1995, 121:2385-2395.
- Hirata J, Nakagoshi H, Nabeshima Y, Matsuzaki F: Asymmetric segregation of the homeodomain protein Prospero during *Drosophila* development. *Nature* 1995, 377:627-630.
- Hirata J, Nakagoshi H, Nabeshima Y, Matsuzaki F: Asymmetric segregation of the homeodomain protein Prospero during *Drosophila* development. *Nature* 1995, 377:627-630.
- Hogan BLM: Molecular morphogens -Upside-down ideas vindicated. *Nature* 1995, 376:210-211.
- Horan GSB, Ramirez-Solis R, Featherstone MS, Wolgemuth DJ, Bradley A, Behringer RR: Compound mutants for the paralogous *hoxa-4*, *hoxb-4*, and *hoxd-4* genes show more complete homeotic transformations and a dose-dependent increase in the number of vertebrae transformed. *Genes Dev* 1995, 9:1667-1677. [45].
- Hosoya T, Takizawa K, Nitta K, Hotta Y: glial cells missing: A binary switch between neuronal and glial determination in *Drosophila*. *Cell* 1995, 82:1025-1036.
- Hou XS, Chou TB, Melnick MB, Perrimon N: The torso receptor tyrosine kinase can activate raf in a ras-independent pathway. *Cell* 1995, 81:63-71.
- Hu S, Fambrough D, Atashi JR, Goodman CS, Crews ST: The *Drosophila* abrupt gene encodes a BTB-zinc finger regulatory protein that controls the specificity of neuromuscular connections. *Genes Dev* 1995, 9:2936-2948.
- Hunter CP, Kenyon C: Specification of anteroposterior cell fates in *Caenorhabditis elegans* by *Drosophila* Hox proteins. *Nature* 1995, 377:229-232.
- Illic D, Furuta Y, Kanazawa S, Takeda N, Sobue K, Nakatsuji N, Nomura S, Fujimoto J, Okada M, Yamamoto T, Aizawa S: Reduced cell motility and enhanced focal adhesion contact formation in cells from FAK-deficient mice. *Nature* 1995, 377:539-544.
- Imakado S, Bickenbach JR, Bundman DS, Rothnagel JA, Attar PS, Wang XJ, Walczak VR, Wisniewski S, Pote J, Gordon JS, Heyman RA, Evans RM, Roop DR: Targeting expression of a dominant-negative retinoic acid receptor mutant in the epidermis of transgenic mice results in loss of barrier function. *Genes Dev* 1995, 9:317-329.
- Ingham PW, Fietz MJ: Quantitative effects of hedgehog and decapentaplegic activity on the patterning of the *Drosophila* wing. *Curr Biol* 1995, 5:432-440.
- Jacobson MD, Raff MC: Programmed cell death and Bcl-2 protection in very low oxygen. *Nature* 1995, 374:814-816.
- Jarriault S, Brou C, Logeat F, Schroeter EH, Kopan R, Israel A: Signalling downstream of activated mammalian Notch. *Nature* 1995, 377:355-358.
- Jiang J, Struhl G: Protein kinase A and hedgehog signaling in *Drosophila* limb development. *Cell* 1995, 80:563-572.
- Johnson E, Wayne S, Nagoshi R: fs(1) Yb is required for ovary follicle cell differentiation in *Drosophila melanogaster* and has genetic interactions with the Notch group of neurogenic genes. *Genetics* 1995, 140:207-217.
- Johnson RL, Grenier JK, Scott MP: patched overexpression alters wing disc size and pattern: Transcriptional and cost-transcriptional effects on hedgehog targets. *Development* 1995, 121:4161-4170.
- Johnson RL, Tabin C: The long and short of hedgehog signaling. *Cell* 1995, 81:313-316.
- Jones BW, Fetter RD, Tear G, Goodman CS: glial cells missing: A genetic switch that controls glial versus neuronal fate. *Cell* 1995, 82:1013-1023.
- Jones KM, Smith JC: Inductive signals: Revolving vertebrates. *Curr Biol* 1995, 5:574-576.
- Jones KT, Carroll J, Merriman JA, Whittingham DG, Kono T: Repetitive sperm-induced Ca<sup>2+</sup> transients in mouse oocytes are cell cycle dependent. *Development* 1995, 121:3259-3266.
- Ju ST, Panka DJ, Cui HL, Ettinger R, Elkhatib M, Sherr DH, Stanger BZ, Marshakrothstein A: Fas(CD95)/FasL interactions required for programmed cell death after T-cell activation. *Nature* 1995, 373:444-448.
- Jurgens G: Developmental biology -Rooting the meristem. *Nature* 1995, 378:16.
- Kalderon D: Morphogenetic signalling: Responses to Hedgehog. *Curr Biol* 1995, 5:580-582.
- Kastner P, Mark M, Chambon P: Nonsteroid nuclear receptors: What are genetic studies telling us about their role in real life? *Cell* 1995, 83:859-869.
- Kastner P, Mark M, Leid M, Gansmuller A, Chin W, Grondona JM, Decimo D, Krezel W, Dierich A, Chambon P: Abnormal spermatogenesis in RXR beta mutant mice. *Genes Dev* 1996, 10:80-92.
- Katz WS, Hill RJ, Clandinin TR, Sternberg PW: Different levels of the C-elegans growth factor LIN-3 promote distinct vulval precursor fates. *Cell* 1995, 82:297-307.
- Kelly GM, Greenstein P, Erezilimaz DF, Moon RT: Zebrafish wnt8 and wnt8b share a common activity but are involved in distinct developmental pathways. *Development* 1995, 121:1787-1799.
- Kenyon C: A perfect vulva every time: Gradients and signaling cascades in C-elegans. *Cell* 1995, 82:171-174.
- Kessler DS, Melton DA: Induction of dorsal mesoderm by soluble, mature Vg1 protein. *Development* 1995, 121:2155-2164.
- Kessler E, Takahara K, Biniaminov L, Brusel M, Greenspan DS: Bone morphogenetic protein-1: The type I procollagen C-proteinase. *Science* 1996, 271:360-362.
- Keynes R, Cook GMW: Axon guidance molecules. *Cell* 1995, 83:161-169.
- Kinoshita N, Minshall J, Kirschner MW: The identification of two novel ligands of the FGF receptor by a yeast screening method and their activity in *Xenopus* development. *Cell* 1995, 83:621-630.
- Knecht AK, Good PJ, Dawid IB, Harland RM: Dorsal-ventral patterning and differentiation of noggin-induced neural tissue in the absence of mesoderm. *Development* 1995, 121:1927-1935.
- Knoblich JA, Jan LY, Jan YN: Asymmetric segregation of Numb and Prospero during cell division. *Nature* 1995, 377:624-627.
- Knoblich JA, Jan LY, Jan YN: Asymmetric segregation of Numb and Prospero during cell division. *Nature* 1995, 377:624-627.
- Knudson CM, Tung KSK, Tourtellotte WG, Brown GAJ, Korsmeyer SJ: Bax-deficient mice with lymphoid hyperplasia and male germ cell death. *Science* 1995, 270:96-99.
- Kondo S, Asai R: A reaction-diffusion wave on the skin of the marine angelfish Pomacanthus. *Nature* 1995, 376:765-768.
- Kuhn R, Schwenk F, Aguet M, Rajewsky K: Inducible gene targeting in mice. *Science* 1995, 269:1427-1429. [60].
- Lai CJ, Ekker SC, Beachy PA, Moon RT: Patterning of the neural ectoderm of *Xenopus laevis* by the amino-terminal product of hedgehog autoproteolytic cleavage. *Development* 1995, 121:2349-2360.
- Lampron C, Rochettegley C, Gorry P, Dolle P, Mark M, Lufkin T, Lemeur M, Chambon P: Mice deficient in cellular retinoic acid binding protein II (CRABPII) or in both CRABPI and CRABPII are essentially normal. *Development* 1995, 121:539-548.
- Landolt RM, Vaughan L, Winterhalter KH, Zimmermann DR: Versican is selectively expressed in embryonic tissues that act as barriers to neural crest cell migration and axon outgrowth. *Development* 1995, 121:2303-2312.
- Lecourtis M, Schweisguth F: The neurogenic suppressor of hairless DNA-binding protein mediates the transcriptional activation of the Enhancer of split complex genes triggered by notch signaling. *Genes Dev* 1995, 9:2598-2608.
- Lee KF, Simon H, Chen H, Bates B, Hung MC, Hauser C: Requirement for neuregulin receptor erbB2 in neural and cardiac development. *Nature* 1995, 378:394-398.
- Lee YM, Osumiyamashita N, Ninomiya Y, Moon CK, Eriksson U, Eto K: Retinoic acid stage-dependently alters the migration pattern and identity of hindbrain neural crest cells. *Development* 1995, 121:825-837.
- Lehmann R: Cell-cell signaling, microtubules, and the loss of symmetry in the *Drosophila* oocyte. *Cell* 1995, 83:353-356.
- Lepage T, Cohen SM, Diazbenjumea FJ, Parkhurst SM: Signal transduction by cAMP-dependent protein kinase A in *Drosophila* limb patterning. *Nature* 1995, 373:711-715.
- Letsou A, Arora K, Wrana JL, Simin K, Twombly V, Jamal J, Staehlinghampton K, Hoffmann FM, Gelbart WM, Massague J, O'Connor MB: Drosophila dpp signaling is mediated by the punt gene product: A dual ligand-binding type II receptor of the TGF beta receptor family. *Cell* 1995, 80:899-908.
- Leviton D, Greenwald I: Facilitation of lin-12-mediated signalling by sel-12, a *Caenorhabditis elegans* S182 Alzheimer's disease gene. *Nature* 1995, 377:351-354.
- Leviton D, Greenwald I: Facilitation of lin-12-mediated signalling by sel-12, a *Caenorhabditis elegans* S182 Alzheimer's disease gene. *Nature* 1995, 377:351-354.

- Li W, Ohlmeier JT, Lane ME, Kalderon D: Function of protein kinase A in hedgehog signal transduction and *Drosophila* imaginal disc development. *Cell* 1995, 80:553-562.
- Liem KF, Tremml G, Roelink H, Jessell TM: Dorsal differentiation of neural plate cells induced by BMP-mediated signals from epidermal ectoderm. *Cell* 1995, 82:969-979.
- Lindsell CE, Shawber CJ, Boulter J, Weinmaster G: Jagged: A mammalian ligand that activates Notch1. *Cell* 1995, 80:909-917.
- Lopezmartinez A, Chang DT, Chiang C, Porter JA, Ros MA, Simandl BK, Beachy PA, Fallon JF: Limb-patterning activity and restricted posterior localization of the amino-terminal product of Sonic hedgehog cleavage. *Curr Biol* 1995, 5:791-796.
- Los M, Vandecraen M, Penning LC, Schenk H, Westendorp M, Baeuerle PA, Droge W, Krammer PH, Fiers W, Schulzeosthoff K: Requirement of an ICE/CED-3 protease for Fas/APO-1-mediated apoptosis. *Nature* 1995, 375:81-83.
- Lumsden A, Graham A: Neural patterning: A forward role for hedgehog. *Curr Biol* 1995, 5:1347-1350.
- Luo G, Hofmann C, Bronckers ALJ, Sohocki M, Bradley A, Karsenty G: BMP-7 is an inducer of nephrogenesis, and is also required for eye development and skeletal patterning. *Genes Dev* 1995, 9:2808-2820.
- Lyman DF, Yedvobnick B: *Drosophila* Notch receptor activity suppresses Hairless function during adult external sensory organ development. *Genetics* 1995, 141:1491-1505.
- Macdonald R, Barth KA, Xu QL, Holder N, Mikkola I, Wilson SW: Midline signalling is required for Pax gene regulation and patterning of the eyes. *Development* 1995, 121:3267-3278.
- Maggert K, Levine M, Frasch M: The somatic-visceral subdivision of the embryonic mesoderm is initiated by dorsal gradient thresholds in *Drosophila*. *Development* 1995, 121:2107-2116.
- Mahmood R, Bresnick J, Hornbruch A, Mahony C, Morton N, Colquhoun K, Martin P, Lumsden A, Dickson C, Mason I: A role for FGF-8 in the initiation and maintenance of vertebrate limb bud outgrowth. *Curr Biol* 1995, 5:797-806.
- Makabe KW, Kirchhamer CV, Britten RJ, Davidson EH: Cis-regulatory control of the SM50 gene, an early marker of skeletogenic lineage specification in the sea urchin embryo. *Development* 1995, 121:1957-1970.
- Mangelsdorf DJ, Evans RM: The RXR heterodimers and orphan receptors. *Cell* 1995, 83:841-850.
- Marchionni MA: Cell-cell signalling - new tack on neuregulin. *Nature* 1995, 378:334-335.
- Martindale MQ, Henry JC: Modifications of cell fate specification in equal-cleaving nemertean embryos: Alternate patterns of spiralian development. *Development* 1995, 121:3175-3185.
- Masteller EL, Larsen RD, Carlson LM, Pickel JM, Nickoloff B, Lowe J, Thompson CB, Lee KP: Chicken B cells undergo discrete developmental changes in surface carbohydrate structure that appear to play a role in directing lymphocyte migration during embryogenesis. *Development* 1995, 121:1657-1667.
- Matsuo I, Kuratani S, Kimura C, Takeda N, Aizawa S: • Mouse *Otx2* functions in the formation and patterning of rostral head. *Genes Dev* 1995, 9:2646-2658. [27].
- Matzuk MM, Kumar TR, Bradley A: Different phenotypes • for mice deficient in either activins or activin receptor type II. *Nature* 1995, 374:356-360. [21].
- Matzuk MM, Kumar TR, Vassalli A, Bickenbach JR, Roop • DR, Jeanisch R, Bradley A: Functional analysis of activins during mammalian development. *Nature* 1995, 374:354-356. [18].
- Matzuk MM, Lu N, Vogel H, Sellheyer K, Roop DR, Bradley • A: Multiple defects and perinatal death in mice deficient in follistatin. *Nature* 1995, 374:360-363. [23].
- Matzuk MM, Lu NF, Vogel H, Sellheyer K, Roop DR, Bradley A: Multiple defects and perinatal death in mice deficient in follistatin. *Nature* 1995, 374:360-363.
- Meyer D, Birchmeier C: Multiple essential functions of neuregulin in development. *Nature* 1995, 378:386-390.
- Minichiello L, Pehl F, Vazquez E, Schimmang T, Hofkelt T, Represa J, Klein R: Differential effects of combined trk receptor mutations on dorsal root ganglion and inner ear sensory neurons. *Development* 1995, 121:4067-4075.
- Moos M, Wang SW, Krinks M: Anti-dorsalizing Morphogenetic Protein is a novel TGF-beta homolog expressed in the Spemann organizer. *Development* 1995, 121:4293-4301.
- Motoyama N, Wang FP, Roth KA, Sawa H, Nakayama K, Nakayama K, Negishi I, Senju S, Zhang Q, Fujii S, Loh DY: Massive cell death of immature hematopoietic cells and neurons in bcl-x-deficient mice. *Science* 1995, 267:1506-1510.
- Munsterberg AE, Kitajewski J, Bumcrot DA, McMahon AP, Lassar AB: Combinatorial signaling by Sonic hedgehog and Wnt family members induces myogenic bHLH gene expression in the somite. *Genes Dev* 1995, 9:2911-2922.
- Munsterberg AE, Kitajewski J, Bumcrot DA, McMahon AP, Lassar AB: Combinatorial signaling by Sonic hedgehog and Wnt family members induces myogenic bHLH gene expression in the somite. *Genes Dev* 1995, 9:2911-2922.
- Munsterberg AE, Lassar AB: Combinatorial signals from the neural tube, floor plate and notochord induce myogenic bHLH gene expression in the somite. *Development* 1995, 121:651-660.
- Murphy AM, Lee TM, Andrews CM, Shilo BZ, Montell DJ: The breathless FGF receptor homolog, a downstream target of *Drosophila* C/EBP in the developmental control of cell migration. *Development* 1995, 121:2255-2263.
- Nakai S, Kawano H, Yudate T, Nishi M, Kuno J, Nagata A, Jishage K, Hamada H, Fujii H, Kawamura K, Shiba K, Noda T: The POU domain transcription factor Brn-2 is required for the determination of specific neuronal lineages in the hypothalamus of the mouse. *Genes Dev* 1995, 9:3109-3121.
- Nasir J, Floresco SB, O'Kusky JR, Diewert VM, Richman JM, Zeisler J, Borowski A, Marth JD, Phillips AG, Hayden MR: Targeted disruption of the Huntington's disease gene results in embryonic lethality and behavioral and morphological changes in heterozygotes. *Cell* 1995, 81:811-823. [15].
- Newman AP, White JG, Sternberg PW: The *Caenorhabditis elegans* lin-12 gene mediates induction of ventral uterine specialization by the anchor cell. *Development* 1995, 121:263-271.
- Newmansmith ED, Werb Z: Stem cell defects in parthenogenetic peri-implantation embryos. *Development* 1995, 121:2069-2077.
- Nicholson DW, Ali A, Thornberry NA, Vaillancourt JP, Ding CK, Gallant M, Gareau Y, Griffin PR, Labelle M, Lazebnik YA, Munday NA, Raju SM, Smulson ME, Yamin TT, Yu VL, Miller DK: Identification and inhibition of the ICE/CED-3 protease necessary for mammalian apoptosis. *Nature* 1995, 376:37-43.
- Nobes CD, Hall A: Rho, Rac, and Cdc42 GTPases regulate the assembly of multimolecular focal complexes associated with actin stress fibers, lamellipodia, and filopodia. *Cell* 1995, 81:53-62.
- Norman DJ, Feng L, Cheng SS, Gubbay J, Chan E, Heintz N: The lurcher gene induces apoptotic death in cerebellar Purkinje cells. *Development* 1995, 121:1183-1193.
- Norris JL, Manley JL: Regulation of dorsal its cultured cells by Toll and tube: Tube function involves a novel mechanism. *Genes Dev* 1995, 9:358-369.
- Nye JS, Kopan R: Developmental signaling: Vertebrate ligands for Notch. *Curr Biol* 1995, 5:966-969.
- Obrien C: Cell biology - Neuronal adhesion molecules signal through FGF receptor. *Science* 1995, 267:1263-1264.
- Orourke NA, Sullivan DP, Kaznowski CE, Jacobs AA, McConnell SK: Tangential migration of neurons in the developing cerebral cortex. *Development* 1995, 121:2165-2176.
- Pan DJ, Rubin GM: cAMP-dependent protein kinase and hedgehog act antagonistically in regulating decapentaplegic transcription in *Drosophila* imaginal discs. *Cell* 1995, 80:543-552.
- Pan HC, Griep AE: Temporally distinct patterns of p53-dependent and p53-independent apoptosis during mouse lens development. *Genes Dev* 1995, 9:2157-2169.
- Pankratz MJ, Hoch M: Control of epithelial morphogenesis by cell signaling and integrin molecules in the *Drosophila* foregut. *Development* 1995, 121:1885-1898.
- Parr BA, McMahon AP: Dorsalizing signal *Wnt-7a* • required for normal polarity of D-V and A-P axes of mouse limb. *Nature* 1995, 374:350-353. [53].
- Patel DJ, Gumbiner BM: Cell-cell recognition - Zipping together a cell adhesion interface. *Nature* 1995, 374:306-307.
- Paul DL, Yu K, Bruzzone R, Gimlich RL, Goodenough DA: Expression of a dominant negative inhibitor of intercellular communication in the early *Xenopus* embryo causes delamination and extrusion of cells. *Development* 1995, 121:371-381.
- Pawson T: Protein modules and signalling networks. *Nature* 1995, 373:573-580.
- Peles E, Nativ M, Campbell PL, Sakurai T, Martinez R, Lev S, Clary DO, Schilling J, Barnea G, Plowman GD, Grumet M, Schlessinger J: The carbonic anhydrase domain of receptor tyrosine phosphatase beta is a functional ligand for the axonal cell recognition molecule contactin. *Cell* 1995, 82:251-260.
- Perrimon N: Hedgehog and beyond. *Cell* 1995, 80:517-520.
- Pierce SB, Kimelman D: Regulation of Spemann organizer formation by the intracellular kinase Xgsk-3. *Development* 1995, 121:755-765.
- Pirrotta V, Chan CS, McCabe D, Qian S: Distinct parasegmental and imaginal enhancers and the establishment of the expression pattern of the Ubx gene. *Genetics* 1995, 141:1439-1450.
- Porter JA, Vonkessler DP, Ekker SC, Young KE, Lee JJ, Moses K, Beachy PA: The product of hedgehog autoproteolytic cleavage active in local and long-range signalling. *Nature* 1995, 374:363-366.
- Pronk GJ, Ramer K, Amiri P, Williams LT: Requirement of an ICE-like protease for induction of apoptosis and ceramide generation by REAPER. *Science* 1996, 271:808-810.
- Qiao L, Lissmore JL, Shu P, Smardon A, Gelber MB, Maine EM: Enhancers of glp-1, a gene required for cell-signaling in *Caenorhabditis elegans*, define a set of genes required for germline development. *Genetics* 1995, 141:551-569.
- Ramirez FA, Wedeen CJ, Stuart DK, Lans D, Weisblat DA: Identification of a neurogenic sublineage required for CNS segmentation in an Annelid. *Development* 1995, 121:2091-2097.
- Ramirez-Solis R, Liu P, Bradley A: Chromosome • engineering in mice. *Nature* 1995, 378:720-724. [63].
- Rancourt DE, Tsuzuki T, Capecchi MR: Genetic interaction • between *hoxb-5* and *hoxb-6* is revealed by nonallelic noncomplementation. *Genes Dev* 1995, 9:108-122. [38].
- Ransick A, Davidson EH: Micromeres are required for normal vegetal plate specification in sea urchin embryos. *Development* 1995, 121:3215-3222.
- Reddi AH: BMP-1: Resurrection as procollagen C-proteinase. *Science* 1996, 271:463.
- Reneker LXW, Silversides DW, Patel K, Overbeek PA: TGF alpha can act as a chemoattractant to periosteal mesenchymal cells in developing mouse eyes. *Development* 1995, 121:1669-1680.
- Richardson H, Okeefe LV, Marty T, Saint R: Ectopic cyclin E expression induces premature entry into S phase and disrupts pattern formation in the *Drosophila* eye imaginal disc. *Development* 1995, 121:3371-3379.
- Roberts DJ, Johnson RL, Burke AC, Nelson CE, Morgan BA, Tabin C: Sonic hedgehog is an endodermal signal inducing Bmp-4 and Hox genes during induction and regionalization of the chick hindgut. *Development* 1995, 121:3163-3174.
- Robinson ML, Macmillan LA, Thompson JA, Overbeek PA: Expression of a truncated FGF receptor results in defective lens development in transgenic mice. *Development* 1995, 121:3959-3967.
- Roelink H, Porter JA, Chiang C, Tanabe Y, Chang DT, Beachy PA, Jessell TM: Floor plate and motor neuron induction by different concentrations of the amino-terminal cleavage product of Sonic hedgehog autoproteolysis. *Cell* 1995, 81:445-455.
- Roth S, Neumannsberger FS, Barcelo G, Schubach T: Cornichon and the EGF receptor signaling process are necessary for both anterior-posterior and dorsal-ventral pattern formation in *Drosophila*. *Cell* 1995, 81:967-978.
- Rothe M, Pan MG, Henzel WJ, Ayres TM, Goeddel DV: The TNFR2-TRAF signaling complex contains two novel proteins related to baculoviral-inhibitor of apoptosis proteins. *Cell* 1995, 83:1243-1252.
- Roush W: Developmental biology - In the fruit fly, cell death genes may come in pairs. *Science* 1995, 269:753.
- Roush W: Developmental biology - Sifting mitosis, cell fate in fly eyes. *Science* 1995, 270:916-917.
- Ruberte E, Marty T, Nellen D, Affolter M, Basler K: An absolute requirement for both the type II and type I receptors, punt and thick veins, for dpp signaling in vivo. *Cell* 1995, 80:889-897.
- Rushton E, Drysdale R, Abmayr SM, Michelson AM, Bate M: Mutations in a novel gene, myoblast city, provide evidence in support of the founder cell hypothesis for *Drosophila* muscle development. *Development* 1995, 121:1979-1988.
- Rutter GA, White MRH, Tavare JM: Involvement of MAP kinase in insulin signalling revealed by non-invasive imaging of luciferase gene expression in single living cells (vol 5, pg 890, 1995). *Curr Biol* 1995, 5:1072.
- Saitou M, Sugai S, Tanaka T, Shimouchi K, Fuchs E, Narumiya S, Kakizuka A: Inhibition of skin development by targeted expression of a dominant-negative retinoic acid receptor. *Nature* 1995, 374:159-162.

- Sasai Y, Lu B, Steinbeisser H, Derobertis EM: Regulation of neural induction by the Chd and Bmp-4 antagonistic patterning signals in *Xenopus*. *Nature* 1995, 376:333-336.
- Sasai Y, Lu B, Steinbeisser H, Derobertis EM: Regulation of neural induction by the Chd and Bmp-4 antagonistic patterning signals in *Xenopus* (vol 376, pg 333, 1995). *Nature* 1995, 377:757.
- Scherer SS, Xu YT, Bannerman PGC, Sherman DL, Brophy PJ: Periaxin expression in myelinating Schwann cells: Modulation by axon-glia interactions and polarized localization during development. *Development* 1995, 121:4265-4273.
- Schlessinger J, Lax I, Lemmon M: Regulation of growth factor activation by proteoglycans: What is the role of the low affinity receptors? *Cell* 1995, 83:357-360.
- Schnitzler GR, Briscoe C, Brown JM, Firtel RA: Serpentine cAMP receptors may act through a G protein-independent pathway to induce postaggregative development in Dictyostelium. *Cell* 1995, 81:737-745.
- Schulte-Merker S, Smith JC: Mesoderm formation in response to Brachyury requires FGF signalling. *Curr Biol* 1995, 5:62-67.
- Schultheiss TM, Xydas S, Lassar AB: Induction of avian cardiac myogenesis by anterior endoderm. *Development* 1995, 121:4203-4214.
- Schwartz C, Locke J, Nishida C, Kornberg TB: Analysis of cubitus interruptus regulation in *Drosophila* embryos and imaginal disks. *Development* 1995, 121:1625-1635.
- Schweigsuth F: Suppressor of Hairless is required for signal reception during lateral inhibition in the *Drosophila* pupal notum. *Development* 1995, 121:1875-1884.
- Schweitzer R, Howes R, Smith R, Shilo BZ, Freeman M: Inhibition of *Drosophila* EGF receptor activation by the secreted protein Argos. *Nature* 1995, 376:699-702.
- Sechrist J, Nieto MA, Zamanian RT, Bronnerfraser M: Regulative response of the cranial neural tube after neural fold ablation: Spatiotemporal nature of neural crest regeneration and up-regulation of Slug. *Development* 1995, 121:4103-4115.
- Selleck MAJ, Bronnerfraser M: Origins of the avian neural crest: The role of neural plate-epidermal interactions. *Development* 1995, 121:525-538.
- Shapiro L, Fannon AM, Kwong PD, Thompson A, Lehmann MS, Grubel G, Legrand JF, Alnsielsen J, Colman DR, Hendrickson WA: Structural basis of cell-cell adhesion by cadherins. *Nature* 1995, 374:327-337.
- Shawlot W, Behringer RR: Requirement for *Lim1* in head-organizer function. *Nature* 1995, 374:425-430. [26].
- Sheets MD, Wu M, Wickens M: Polyadenylation of c-mos mRNA as a control point in *Xenopus* meiotic maturation. *Nature* 1995, 374:511-516.
- Shimizu S, Eguchi Y, Kosaka H, Kamikawa W, Matsuda H, Tsujimoto Y: Prevention of hypoxia-induced cell death by Bcl-2 and Bcl-xL. *Nature* 1995, 374:811-813.
- Sibilia M, Wagner EF: Strain-dependent epithelial defects in mice lacking the EGF receptor. *Science* 1995, 269:234-238.
- Simpson P: Developmental genetics - The Notch connection. *Nature* 1995, 375:736-737.
- Singer MS, Shepherd GM, Greer CA: Olfactory receptors guide axons [Letter]. *Nature* 1995, 377:19-20.
- Skeath JB, Zhang Y, Holmgren R, Carroll SB, Doe CQ: Specification of neuroblast identity in the *Drosophila* embryonic central nervous system by gooseberry-distal. *Nature* 1995, 376:427-430.
- Slack JMW: Developmental biology - Growth factor lends a hand. *Nature* 1995, 374:217-218.
- Smith J: Developmental biology - Angles on activin's absence. *Nature* 1995, 374:311-312.
- Smith WC, McKendry R, Ribisi S, Harland RM: A nodal-related gene defines a physical and functional domain within the Spemann organizer. *Cell* 1995, 82:37-46.
- Sommer RJ, Sternberg PW: Apoptosis and change of competence limit the size of the vulva equivalence group in *Pristionchus pacificus*: A genetic analysis. *Curr Biol* 1996, 6:52-59.
- Sonnenfeld MJ, Jacobs JR: Apoptosis of the midline glia during *Drosophila* embryogenesis: A correlation with axon contact. *Development* 1995, 121:569-578.
- Souza P, Kuliszewski M, Wang JX, Tseu I, Tanswell AK, Post M: PDGF-AA and its receptor influence early lung branching via an epithelial-mesenchymal interaction. *Development* 1995, 121:2559-2567.
- Sretavan DW, Pure E, Siegel MW, Reichardt LF: Disruption of retinal axon ingrowth by ablation of embryonic mouse optic chiasm neurons. *Science* 1995, 269:98-101.
- Staeplinghampton K, Laughon AS, Hoffmann FM: A *Drosophila* protein related to the human zinc finger transcription factor PRDII/MBP1/HIV-EP1 is required for dpp signaling. *Development* 1995, 121:3393-3403.
- Steller H: Mechanisms and genes of cellular suicide. *Science* 1995, 267:1445-1449.
- Stitt TN, Conn G, Gore M, Lai C, Bruno J, Radziejewski C, Mattsson K, Fisher J, Gies DR, Jones PF, Masiakowski P, Ryan TE, Tobkes NJ, Chen DH, Distefano PS, Long GL, Basilico C, Goldfarb MP, Lemke G, Glass DJ, Yancopoulos GD: The anticoagulation factor protein S and its relative, Gas6, are ligands for the Tyro 3/Axl family of receptor tyrosine kinases. *Cell* 1995, 80:661-670.
- Stjohnston D: Developmental biology - New role for tropomyosin. *Nature* 1995, 377:483.
- Stoker AW, Gehrig B, Haj F, Bay BH: Axonal localisation of the CAM-like tyrosine phosphatase CRYP alpha: A signalling molecule of embryonic growth cones. *Development* 1995, 121:1833-1844.
- Storey KG, Selleck MAJ, Stern CD: Neural induction and regionalisation by different subpopulations of cells in Hensen's node. *Development* 1995, 121:417-428.
- Strasser A: Apoptosis - Death of a T cell. *Nature* 1995, 373:385-386.
- Strutt DJ, Mlodzik M: Ommatidial polarity in the *Drosophila* eye is determined by the direction of furrow progression and local interactions. *Development* 1995, 121:4247-4256.
- Strutt DJ, Wiersdorff V, Mlodzik M: Regulation of furrow progression in the *Drosophila* eye by cAMP-dependent protein kinase A. *Nature* 1995, 373:705-709.
- Subramanian V, Meyer BI, Gruss P: Disruption of the murine homeobox gene *Cdx1* affects axial skeleton identities by altering the mesodermal expression domains of *Hox* genes. *Cell* 1995, 83:641-653. [47].
- Sucov HM, Ixizabelmonte JC, Ganan Y, Evans RM: Mouse embryos lacking RXR alpha are resistant to retinoic-acid-induced limb defects. *Development* 1995, 121:3997-4003.
- Sundaresan V, Springer P, Volpe T, Haward S, Jones JDG, Dean C, Ma H, Martienssen R: Patterns of gene action in plant development revealed by enhancer trap and gene trap transposable elements. *Genes Dev* 1995, 9:1797-1810.
- Tabata T, Schwartz C, Gustavson E, Ali Z, Kornberg TB: Creating a *Drosophila* wing de novo, the role of engrailed, and the compartment border hypothesis. *Development* 1995, 121:3359-3369.
- Tajbakhsh S, Buckingham ME: Lineage restriction of the myogenic conversion factor myf-5 in the brain. *Development* 1995, 121:4077-4083.
- Takayama S, Sato T, Krajewski S, Kochel K, Irie S, Millan JA, Reed JC: Cloning and functional analysis of BAG-1: A novel Bcl-2-binding protein with anti-cell death activity. *Cell* 1995, 80:279-284.
- Talbot WS, Trevarrow B, Halpern ME, Melby AE, Farr G, Postlethwait JH, Jowett T, Kimmel CB, Kimmel D: The organizer-specific homeobox gene *floating head* is essential for notochord development in the zebrafish. *Nature* 1995, 378:150-157. [62].
- Tanabe Y, Roelink H, Jessell TM: Induction of motor neurons by Sonic hedgehog is independent of floor plate differentiation. *Curr Biol* 1995, 5:651-658.
- Tanaka E, Sabry J: Making the connection: Cytoskeletal rearrangements during growth cone guidance. *Cell* 1995, 83:171-176.
- Tanaka EM, Gann AAF: Limb development: The budding role of FGF. *Curr Biol* 1995, 5:594-597.
- Tepass U, Hartenstein V: Neurogenic and proneural genes control cell fate specification in the *Drosophila* endoderm. *Development* 1995, 121:393-405.
- Tewari M, Quan LT, O'Rourke K, Desnoyers S, Zeng Z, Beidler DR, Poirier GG, Salvesen GS, Dixit VM: Yama/CPP32 beta, a mammalian homolog of CED-3, is a CrmA-inhibitable protease that cleaves the death substrate poly(ADP-ribose) polymerase. *Cell* 1995, 81:801-809.
- Thomas SM, Soriano P, Imamoto A: Specific and redundant roles of Src and Fyn in organizing the cytoskeleton. *Nature* 1995, 376:267-271.
- Threadgill DW, Dlugosz AA, Hansen LA, Tennenbaum T, Lichti U, Yee D, Lamantia C, Mourtou T, Herrup K, Harris RC, Barnard JA, Yuspa SH, Coffey RJ, Magnuson T: Targeted disruption of mouse EGF receptor: Effect of genetic background on mutant phenotype. *Science* 1995, 269:230-234.
- Thummel CS: From embryogenesis to metamorphosis: The regulation and function of *Drosophila* nuclear receptor superfamily members. *Cell* 1995, 83:871-877.
- Treisman JE, Follette PJ, Ofarrell PH, Rubin GM: Cell proliferation and DNA replication defects in a *Drosophila* MCM2 mutant. *Genes Dev* 1995, 9:1709-1715.
- Tsuji M, Dubois RN: Alterations in cellular adhesion and apoptosis in epithelial cells overexpressing prostaglandin endoperoxide synthase 2. *Cell* 1995, 83:493-501.
- Umbhauer M, Marshall CJ, Mason CS, Old RW, Smith JC: Mesoderm induction in *Xenopus* caused by activation of MAP kinase. *Nature* 1995, 376:58-62.
- Van Deursen J, Fornerod M, Van Rees B, Grosveld G: Cre-mediated site-specific translocation between nonhomologous mouse chromosomes. *Proc Natl Acad Sci U S A* 1995, 92:7376-7380. [65].
- Vaughan PS, Aziz F, Vanwijnen AJ, Wu SJ, Harada H, Taniguchi T, Soprano KJ, Stein JL, Stein GS: Activation of a cell-cycle-regulated histone gene by the oncogenic transcription factor IRF-2. *Nature* 1995, 377:362-365.
- Wang Y, Schnegelsberg PNJ, Dausman J, Jaenisch R: Functional redundancy of the muscle-specific transcription factors Myf5 and myogenin. *Nature* 1996, 379:823-825. [67].
- Weaver TA, White RAH: headcase, an imaginal specific gene required for adult morphogenesis in *Drosophila melanogaster*. *Development* 1995, 121:4149-4160.
- Wehrlihalder B, Weston JA: Soluble and cell-bound forms of steel factor activity play distinct roles in melanocyte precursor dispersal and survival on the lateral neural crest migration pathway. *Development* 1995, 121:731-742.
- Weigel D, Doerner P: Cell-cell interactions: Taking cues from the neighbors. *Curr Biol* 1996, 6:10-12.
- Wharton K, Ray RP, Findley SD, Duncan HE, Gelbart WM: Molecular lesions associated with alleles of decapentaplegic identify residues necessary for TGF-beta/BMP cell signaling in *Drosophila melanogaster*. *Genetics* 1996, 142:493-505.
- Wheatley S, Kulkarni S, Kares R: *Drosophila* nonmuscle myosin II is required for rapid cytoplasmic transport during oogenesis and for axial nuclear migration in early embryos. *Development* 1995, 121:1937-1946.
- White K: Morphogenesis: Cell death returns to its roots. *Curr Biol* 1995, 5:371-372.
- White K, Tahaoglu E, Steller H: Cell killing by the *Drosophila* gene reaper. *Science* 1996, 271:805-807.
- Whyte M, Evan G: Apoptosis - The last cut is the deepest. *Nature* 1995, 376:17-18.
- Wilder EL, Perimon N: Dual functions of wingless in the *Drosophila* leg imaginal disc. *Development* 1995, 121:477-488.
- Wilkie AOM, Morris-Kay GM, Jones EY, Heath JK: Functions of fibroblast growth factors and their receptors [review]. *Curr Biol* 1995, 5:500-507.
- Wilson V, Manson L, Skarnes WC, Beddington RSP: The *T* gene is necessary for normal mesodermal morphogenetic cell movements during gastrulation. *Development* 1995, 121:877-886.
- Winnier G, Blessing M, Labosky PA, Hogan BLM: Bone morphogenetic protein-4 is required for mesoderm formation and patterning in the mouse. *Genes Dev* 1995, 9:2105-2116. [55].
- Wodarz A, Hinz U, Engelbert M, Knust E: Expression of crumbs confers apical character on plasma membrane domains of ectodermal epithelia of *Drosophila*. *Cell* 1995, 82:67-76.
- Wolpert L, Brown NA: Developmental biology - Hedgehog keeps to the left. *Nature* 1995, 377:103-104.
- Wubaj JA, Ibrahim MM, Gao X, Nguyen D, Pisano MM, Knudsen TB: Teratogen-induced eye defects mediated by p53-dependent apoptosis. *Curr Biol* 1996, 6:60-69.
- Yan L, Pollock GH, Nagase H, Sarraz MP: A 25.7x10(3) Mr hydra metalloproteinase (HMP1), a member of the astacin family, localizes to the extracellular matrix of Hydra vulgaris in a head-specific manner and has a developmental function. *Development* 1995, 121:1591-1602.
- Yang E, Zha JP, Jockel J, Boise LH, Thompson CB, Korsmeyer SJ: Bad, a heterodimeric partner for Bcl-x(L) and Bcl-2, displaces Bax and promotes cell death. *Cell* 1995, 80:285-291.
- Yang JT, Rayburn H, Hynes RO: Cell adhesion events mediated by alpha(4) integrins are essential in placental and cardiac development. *Development* 1995, 121:549-560.
- Yang Y, Niswander L: Interaction between the signalling molecules WNT-7a and SHH during vertebrate limb development: dorsal signals regulate anteroposterior patterning. *Cell* 1995, 80:939-947. [54].
- Yang YZ, Niswander L: Interaction between the signalling molecules WNT7a and SHH during vertebrate

- limb development: Dorsal signals regulate anteroposterior patterning. *Cell* 1995, 80:939-947.
- Yao RJ, Cooper GM: Requirement for phosphatidylinositol-3 kinase in the prevention of apoptosis by nerve growth factor. *Science* 1995, 267:2003-2006.
- Yazaki I, Tosti E, Dale B: Cytoskeletal elements link calcium channel activity and the cell cycle in early sea urchin embryos. *Development* 1995, 121:1827-1831.
- Yoon CH, Lee JH, Jongeward GD, Sternberg PW: Similarity of *sli-1*, a regulator of vulval development in *C. elegans*, to the mammalian proto-oncogene *c-cbl*. *Science* 1995, 269:1102-1105.
- Yu BD, Hess JL, Horning SE, Brown GAJ, Korsmeyer SJ: • Altered *Hox* expression and segmental identity in *Mli*-mutant mice. *Nature* 1995, 378:505-508. [48].
- Zecca M, Basler K, Struhl G: Sequential organizing activities of engrailed, hedgehog and decapentaplegic in the *Drosophila* wing. *Development* 1995, 121:2265-2278.
- Zheng XF, Fiorentino D, Chen J, Crabtree GR, Schreiber SL: TOR kinase domains are required for two distinct functions, only one of which is inhibited by rapamycin. *Cell* 1995, 82:121-130.
- Zhou L, Hashimi H, Schwartz LM, Nambu JR: Programmed cell death in the *Drosophila* central nervous system midline. *Curr Biol* 1995, 5:784-790.
- Zhukareva V, Levitt P: The limbic system-associated membrane protein (LAMP) selectively mediates interactions with specific central neuron populations. *Development* 1995, 121:1161-1172.
- Neurogenesis and the neural system**
- Related review: Novel gene families involved in neural pathfinding (pp 469-474)
- Acampora D, Mazan S, Lallemand Y, Avantaggiato V, Maury M, Simeone A, Brulet P: Forebrain and midbrain regions are deleted in *Otx2(-/-)* mutants due to a defective anterior neuroectoderm specification during gastrulation. *Development* 1995, 121:3279-3290.
- Aigner L, Arber S, Kapfhammer JP, Laux T, Schneider C, Botteri F, Brenner HR, Caroni P: Overexpression of the neural growth-associated protein GAP-43 induces nerve sprouting in the adult nervous system of transgenic mice. *Cell* 1995, 83:269-278.
- Anderson DJ: Neural development - Spinning skin into neurons. *Curr Biol* 1995, 5:1235-1238.
- Barinaga M: Receptors find work as guides - New evidence suggests that a large new family of receptor protein tyrosine kinases helps developing neurons to make the right connections in the brain. *Science* 1995, 269:1668-1670.
- Barinaga M: Neurobiology - New clue to brain wiring mystery. *Science* 1995, 270:581.
- Barth KA, Wilson SW: Expression of zebrafish *nk2.2* is influenced by sonic hedgehog/vertebrate hedgehog-1 and demarcates a zone of neuronal differentiation in the embryonic forebrain. *Development* 1995, 121:1755-1768.
- Becker T, Berliner AJ, Niteabach MN, Gan WB, Macagno ER: Target-induced neurogenesis in the leech CNS involves efferent projections to the target. *Development* 1995, 121:359-369.
- Burns ME, Augustine GJ: Synaptic structure and function: Dynamic organization yields architectural precision. *Cell* 1995, 83:187-194.
- Callahan CA, Muralidhar MG, Lundgren SE, Scully AL, • Thomas JB: Control of neuronal pathway selection by a *Drosophila* receptor protein-tyrosine kinase family member. *Nature* 1995, 376:171-174. [50].
- Chen C, Kano M, Abelson H, Chen L, Bao SW, Kim JJ, Hashimoto K, Thompson RF, Toneyawa S: Impaired motor coordination correlates with persistent multiple climbing fiber innervation in PKC gamma mutant mice. *Cell* 1995, 83:1233-1242.
- Chen CC, Akopian AN, Sivillotti L, Colquhoun D, Burnstock G, Wood JN: A P2X purinoreceptor expressed by a subset of sensory neurons. *Nature* 1995, 377:428-431.
- Chen WH, Morrissey GM, Copp AJ: Genesis and prevention of spinal neural tube defects in the curly tail mutant mouse: Involvement of retinoic acid and its nuclear receptors RAR-beta and RAR-gamma. *Development* 1995, 121:681-691.
- Cheng HJ, Nakamoto M, Bergemann AD, Fanagan JG: • Complementary gradients in expression and binding of ELF-1 and Mek4 in development of the topographic retinotectal projection map. *Cell* 1995, 82:371-401. [40].
- Chitnis A, Henrique D, Lewis J, Ishhorowicz D, Kintner C: Primary neurogenesis in *Xenopus* embryos regulated by a homologue of the *Drosophila* neurogenic gene *Delta*. *Nature* 1995, 375:761-766.
- Cohency R, Fraser SE: Effects of brain-derived neurotrophic factor on optic axon branching and remodelling in vivo. *Nature* 1995, 378:192-196.
- Colamarino SA, Tessier-Lavigne M: The axonal • chemoattractant netrin-1 is also a chemorepellent for trochlear motor axons. *Cell* 1995, 81:621-629. [6].
- Davies AM, Wright EM: Neurotrophic factors: Neurotrophin autocrine loops. *Curr Biol* 1995, 5:723-726.
- Defelipe C, Pinnock RD, Hunt SP: Modulation of chemotropism in the developing spinal cord by substance P. *Science* 1995, 267:899-902.
- Desai CJ, Gindhart JG Jr, Goldstein LSB, Zinn K: Receptor • tyrosine phosphatases are required for motor axon guidance in the *Drosophila* embryo. *Cell* 1996, 84:599-609. [44].
- Dickinson ME, Selleck MAJ, McMahon AP, Bronnerfraser N: Dorsalization of the neural tube by the non-neural ectoderm. *Development* 1995, 121:2099-2106.
- Doniach T: Basic FGF as an inducer of anteroposterior neural pattern. *Cell* 1995, 83:1067-1070.
- Drescher U, Kremoser C, Handwerker C, Löscher J, • Noda M, Bonhoeffer F: In vitro guidance of retinal ganglion cell axons by RAGS, a 25 kDa tectal protein related to ligands for Eph receptor tyrosine kinases. *Cell* 1995, 82:359-370. [34].
- Duyao MP, Auerbach AB, Ryan A, Persichetti F, Barnes GT, Mcneil SM, Ge P, Vonsattel JP, Gusella JF, Joyner AL, MacDonald ME: Inactivation of the mouse Huntington's disease gene homolog *Hdh*. *Science* 1995, 269:407-410.
- Egger SC, Ungar AR, Greenstein P, Vonkessler DP, Porter JA, Moon RT, Beachy PA: Patterning activities of vertebrate hedgehog proteins in the developing eye and brain. *Curr Biol* 1995, 5:944-955.
- Ericson J, Muhr J, Placzek M, Lints T, Jessell TM, Edlund T: Sonic hedgehog induces the differentiation of ventral forebrain neurons: A common signal for ventral patterning within the neural tube. *Cell* 1995, 81:747-756.
- Fan J, Raper JA: Localized collapsing cues can steer • growth cones without inducing their full collapse. *Neuron* 1995, 14:263-274. [18].
- Fishell G: Striatal precursors adopt cortical identities in response to local cues (vol 121, pg 803, 1995). *Development* 1995, 121:U4.
- Gassmann M, Casagrande F, Orioli D, Simon H, Lai C, Klein R, Lemke G: Aberrant neural and cardiac development in mice lacking the *ErbB4* neuregulin receptor. *Nature* 1995, 378:390-394.
- Giangrande A: Proneural genes influence gliogenesis in *Drosophila*. *Development* 1995, 121:429-438.
- Gonzalezgaitan M, Jackle H: Invagination centers within the *Drosophila* stomatogastric nervous system anlage are positioned by Notch-mediated signaling which is spatially controlled through wingless. *Development* 1995, 121:2313-2325.
- Goshima Y, Nakamura F, Strittmatter P, Strittmatter SM: • Collapsin-induced growth cone collapse mediated by an intracellular protein related to UNC-33. *Nature* 1995, 376:509-514. [24].
- Guo LF, Degenstein L, Dowling J, Yu QC, Wollmann R, Perman B, Fuchs E: Gene targeting of BPAG1: Abnormalities in mechanical strength and cell migration in stratified epithelia and neurologic degeneration. *Cell* 1995, 81:233-243.
- Halder G, Callaerts P, Gehring WJ: Induction of ectopic eyes by targeted expression of the *eyeless* gene in *Drosophila*. *Science* 1995, 267:1788-1792.
- Hall AK, Macphedran SE: Multiple mechanisms regulate sympathetic neuronal phenotype. *Development* 1995, 121:2361-2371.
- Heberlein U, Singh CM, Luk AY, Donohoe TJ: Growth and differentiation in the *Drosophila* eye coordinated by hedgehog. *Nature* 1995, 373:709-711.
- Henrique D, Adam J, Myat A, Chitnis A, Lewis J, Ishhorowicz D: Expression of a *Delta* homologue in prospective neurons in the chick. *Nature* 1995, 375:787-790.
- Huang YY, Kandel ER, Varshavsky L, Brandon EP, Qi M, Izderda RL, McKnight GS, Bourchouladze R: A genetic test of the effects of mutations in PKA on mossy fiber LTP and its relation to spatial and contextual learning. *Cell* 1995, 83:1211-1222.
- Ichchenko K, Hata Y, Nguyen T, Ullrich B, Missler M, Moomaw C, Sudhof TC: Neuroligin 1: A splice site-specific ligand for beta-neurexins. *Cell* 1995, 81:435-443.
- Ishibashi M, Ang SL, Shiota K, Nakanishi S, Kageyama R, Guillemot F: Targeted disruption of mammalian hairy and enhancer of split homologue-1 (*HES-1*) leads to up-regulation of neural helix-loop-helix factors, premature neurogenesis, and severe neural tube defects. *Genes Dev* 1995, 9:3136-3148.
- Jarman AP, Sun Y, Jan LY, Jan YN: Role of the proneural gene, *atonal*, in formation of *Drosophila* chordotonal organs and photoreceptors. *Development* 1995, 121:2019-2030.
- Johnson E, Wayne S, Nagoshi R: *fs(1) Yb* is required for ovary follicle cell differentiation in *Drosophila melanogaster* and has genetic interactions with the Notch group of neurogenic genes. *Genetics* 1995, 140:207-217.
- Kania A, Salzberg A, Bhat M, Develyn D, He YC, Kiss I, Bellen HJ: P-element mutations affecting embryonic peripheral nervous system development in *Drosophila melanogaster*. *Genetics* 1995, 139:1663-1678.
- Kano M, Hashimoto K, Chen C, Abelson H, Aiba A, Kurihara H, Watanabe M, Inoue Y, Toneyawa S: Impaired synapse elimination during cerebellar development in PKC gamma mutant mice. *Cell* 1995, 83:1223-1231.
- Krueger NX, Van Vactor D, Wan HJ, Gelbart WM, • Goodman CS, Saito H: The transmembrane tyrosine phosphatase *DLAR* controls motor axon guidance in *Drosophila*. *Cell* 1996, 84:611-622. [45].
- Kumar JP, Ready DF: Rhodopsin plays an essential structural role in *Drosophila* photoreceptor development. *Development* 1995, 121:4359-4370.
- Lai CJ, Ekker SC, Beachy PA, Moon RT: Patterning of the neural ectoderm of *Xenopus laevis* by the amino-terminal product of hedgehog autoproteolytic cleavage. *Development* 1995, 121:2349-2360.
- Landolt RM, Vaughan L, Winterhalter KH, Zimmermann DR: Versican is selectively expressed in embryonic tissues that act as barriers to neural crest cell migration and axon outgrowth. *Development* 1995, 121:2303-2312.
- Lee KF, Simon H, Chen H, Bates B, Hung MC, Hauser C: Requirement for neuregulin receptor *erbB2* in neural and cardiac development. *Nature* 1995, 378:394-398.
- Lee YM, Osumiyamashita N, Ninomiya Y, Moon CK, Eriksson U, Eto K: Retinoic acid stage-dependently alters the migration pattern and identity of hindbrain neural crest cells. *Development* 1995, 121:825-837.
- Lumsden A: Neural development: A 'LIM code' for motor neurons? *Curr Biol* 1995, 5:491-495.
- Lumsden A, Graham A: Neural patterning: A forward role for hedgehog. *Curr Biol* 1995, 5:1347-1350.
- Lundgren SE, Callahan CA, Thor S, Thomas JB: Control of neuronal pathway selection by the *Drosophila* LIM homeodomain gene *apterous*. *Development* 1995, 121:1769-1773.
- Ma CY, Moses K: Wingless and Patched are negative regulators of the morphogenetic furrow and can affect tissue polarity in the developing *Drosophila* compound eye. *Development* 1995, 121:2279-2289.
- Matthes DJ, Sink H, Kolodkin AL, Goodman CS: • Semaphorin II can function as a selective inhibitor of specific synaptic arborizations. *Cell* 1995, 81:631-639. [21].
- Mayor R, Morgan R, Sargent MG: Induction of the prospective neural crest of *Xenopus*. *Development* 1995, 121:767-777.
- Messersmith EK, Leonardo ED, Shatz CJ, Tessier-Lavigne M, Goodman CS, Kolodkin AL: Semaphorin III can function as a selective chemorepellent to pattern sensory projections in the spinal cord. *Neuron* 1995, 14:949-959. [20].
- Millen KJ, Hui CC, Joyner AL: A role for *En-2* and other murine homologues of *Drosophila* segment polarity genes in regulating positional information in the developing cerebellum. *Development* 1995, 121:3935-3945.
- Minichiello L, Pehl F, Vazquez E, Schimmang T, Hofkelt T, Represa J, Klein R: Differential effects of combined *trk* receptor mutations on dorsal root ganglion and inner ear sensory neurons. *Development* 1995, 121:4047-4075.
- Oliver G, Mailhos A, Wehr R, Copeland NG, Jenkins NA, Gruss P: *Six3*, a murine homologue of the *sine oculis* gene, demarcates the most anterior border of the developing neural plate and is expressed during eye development. *Development* 1995, 121:4045-4055.
- Ono K, Bansal R, Payne J, Rutishauser U, Miller RH: Early development and dispersal of oligodendrocyte precursors in the embryonic chick spinal cord. *Development* 1995, 121:1743-1754.
- Orike N, Pini A: Axon guidance - Following the Eph plan. *Curr Biol* 1996, 6:108-110.
- Orourke NA, Sullivan DP, Kaznowski CE, Jacobs AA, McConnell SK: Tangential migration of neurons in

- the developing cerebral cortex. *Development* 1995, 121:2165-2176.
- Pandey A, Shao H, Marks RM, Polverini PJ, Dixit VM: Role of B61, the ligand for the Eck receptor tyrosine kinase, in TNF- $\alpha$  induced angiogenesis. *Science* 1995, 268:567-569. [52].
- Pfaff SL, Mendelsohn M, Stewart CL, Edlund T, Jessell TM: Requirement for LIM homeobox gene *Isl1* in motor neuron generation reveals a motor neuron-dependent step in interneuron differentiation. *Cell* 1996, 84:309-320.
- Ramirez FA, Wedeen CJ, Stuart DK, Lans D, Weisblat DA: Identification of a neurogenic sublineage required for CNS segmentation in an Annelid. *Development* 1995, 121:2091-2097.
- Reimold AM, Grusby MJ, Kosaras B, Fries JWU, Mori R, Maniwa S, Clauss IM, Collins T, Sidman RL, Glimcher MJ, Glimcher LH: Chondrodysplasia and neurological abnormalities in ATF-2-deficient mice. *Nature* 1996, 379:262-265.
- Richman JM: Head development: Craniofacial genetics makes headway. *Curr Biol* 1995, 5:345-348.
- Robinson ML, Macmillan LA, Thompson JA, Overbeek PA: Expression of a truncated FGF receptor results in defective lens development in transgenic mice. *Development* 1995, 121:3959-3967.
- Schimmang T, Minichiello L, Vazquez E, Jose IS, Giraldez F, Klein R, Represa J: Developing inner ear sensory neurons require TrkB and TrkC receptors for innervation of their peripheral targets. *Development* 1995, 121:3381-3391.
- Selleck MAJ, Bronnerfraser M: Origins of the avian neural crest: The role of neural plate-epidermal interactions. *Development* 1995, 121:525-538.
- Shimamura K, Hartigan DJ, Martinez S, Puelles L, Rubenstein JLR: Longitudinal organization of the anterior neural plate and neural tube. *Development* 1995, 121:3923-3933.
- Simon H, Hornbruch A, Lumsden A: Independent assignment of antero-posterior and dorso-ventral positional values in the developing chick hindbrain. *Curr Biol* 1995, 5:205-214.
- Singer MS, Shepherd GM, Greer CA: Olfactory receptors guide axons [Letter]. *Nature* 1995, 377:19-20.
- Skeath JB, Zhang Y, Holmgren R, Carroll SB, Doe CQ: Specification of neuroblast identity in the *Drosophila* embryonic central nervous system by gooseberry-distal. *Nature* 1995, 376:427-430.
- Sonnenfeld MJ, Jacobs JR: Apoptosis of the midline glia during *Drosophila* embryogenesis: A correlation with axon contact. *Development* 1995, 121:569-578.
- Sretavan DW, Pure E, Siegel MW, Reichardt LF: Disruption of retinal axon ingrowth by ablation of embryonic mouse optic chiasm neurons. *Science* 1995, 269:98-101.
- Storey KG, Selleck MAJ, Stern CD: Neural induction and regionalisation by differential subpopulations of cells in Hensen's node. *Development* 1995, 121:417-428.
- Streit A, Stern CD, Thery C, Ireland GW, Aparicio S, Sharpe MJ, Gherardi E: A role for HGF/SF in neural induction and its expression in Hensen's node during gastrulation. *Development* 1995, 121:813-824.
- Strittmatter SM, Fankhauser C, Huang PL, Mashimo H, Fishman MC: Neuronal pathfinding is abnormal in mice lacking the neuronal growth cone protein GAP-43. *Cell* 1995, 80:445-452.
- Strutt DJ, Wiersdorff V, Mlodzik M: Regulation of furrow progression in the *Drosophila* eye by cAMP-dependent protein kinase A. *Nature* 1995, 373:705-709.
- Sun YH, Tsai CJ, Green MM, Chao JL, Yu CT, Jaw TJ, Yeh JY, Bolshakov VN: white as a reporter gene to detect transcriptional silencers specifying position-specific gene expression during *Drosophila melanogaster* eye development. *Genetics* 1995, 141:1075-1086.
- Tanaka EM, Gann AAF: Limb development: The budding role of FGF. *Curr Biol* 1995, 5:594-597.
- Tepass U, Hartenstein V: Neurogenic and proneural genes control cell fate specification in the *Drosophila* endoderm. *Development* 1995, 121:393-405.
- Trainor PA, Tam PPL: Cranial paraxial mesoderm and neural crest cells of the mouse embryo: Co-distribution in the craniofacial mesenchyme but distinct segregation in branchial arches. *Development* 1995, 121:2569-2582.
- Udolph G, Luer K, Bossing T, Technau GM: Commitment of CNS progenitors along the dorsoventral axis of *Drosophila* neuroectoderm. *Science* 1995, 269:1278-1281.
- Wadsworth WG, Bhatt H, Hedgecock EM: Neuroglia and pioneer neurons express unc-6 to provide global and local netrin cues for guiding migrations in *C. elegans*. *Neuron* 1996, 16:35-46. [7].
- Wehrli M, Tomlinson A: Epithelial planar polarity in the developing *Drosophila* eye. *Development* 1995, 121:2451-2459.
- Winslow JW, Moran P, Valverde J, Shih A, Yuan JQ, Wong SC, Tsai SP, Goddard A, Henzel WJ, Hefti F, Beck KD, Caras IV: Cloning of AL-1, a ligand for an Eph-related tyrosine kinase receptor involved in axon bundle formation. *Neuron* 1995, 14:973-981. [33].
- Witta SE, Agarwal VR, Sato SM: XIPOU 2, a noggin-inducible gene, has direct neuralizing activity. *Development* 1995, 121:721-730.
- Zhang YH, Emmons SW: Specification of sense-organ identity by a *Caenorhabditis elegans* Pax-6 homologue. *Nature* 1995, 377:55-59.
- Zhou L, Hashimi H, Schwartz LM, Nambu JR: Programmed cell death in the *Drosophila* central nervous system midline. *Curr Biol* 1995, 5:784-790.
- Zhukareva V, Levitt P: The limbic system-associated membrane protein (LAMP) selectively mediates interactions with specific central neuron populations. *Development* 1995, 121:1161-1172.

## Pattern formation and development in plants

Related reviews: Plant development: local control, global patterning (pp 475-479); Control of flowering time in plants (pp 480-487)

- Aeschbacher RA, Hauser MT, Feldmann KA, Benfey PN: The SABRE gene is required for normal cell expansion in *Arabidopsis*. *Genes Dev* 1995, 9:330-340.
- Bagnall DJ, King RW, Whitlam GC, Boylan MT, Wagner D, Quail PH: Flowering responses to altered expression of phytochrome in mutants and transgenic lines of *Arabidopsis thaliana* (L) Heynh. *Plant Physiol* 1995, 108:1495-1503. [49].
- Bai S, Sung ZR: The role of EMF1 in regulating the vegetative and reproductive transition in *Arabidopsis thaliana*. *Am J Botany* 1995, 82:1095-1103. [31].
- Baima S, Nobili F, Sessa G, Lucchetti S, Ruberti I, Morelli G: The expression of the *Atb-8* homeobox gene is restricted to provascular cells in *Arabidopsis thaliana*. *Development* 1995, 121:4171-4182.
- Beveridge CA, Murfet IC: Flowering in *Pisum*: the *gigas* mutant is deficient in the floral stimulus. *Physiol Plant* 1996, in press. [4].
- Bossinger G, Smyth DR: Initiation patterns of flower and floral organ development in *Arabidopsis thaliana*. *Development* 1996, 122:1093-1102. [6].
- Bradley D, Carpenter R, Copeley L, Vincent C, Rothstein S, Coen E: Control of inflorescence architecture in *Antirrhinum*. *Nature* 1996, 379:791-797. [41].
- Celenza JL, Grisafi PL, Fink GR: A pathway for lateral root formation in *Arabidopsis thaliana*. *Genes Dev* 1995, 9:2131-2142.
- Clark SE, Jacobsen SE, Levin JZ, Meyerowitz EM: The *CLAVATA* and *SHOOT MERISTEMLESS* loci competitively regulate meristem activity in *Arabidopsis*. *Development* 1996, 122:1567-1575. [16].
- Clark SE, Running MP, Meyerowitz EM: *CLAVATA3* is a specific regulator of shoot and floral meristem development affecting the same processes as *CLAVATA1*. *Development* 1995, 121:2057-2067. [11].
- Coupland G: Flower development - LEAFY blooms in aspen. *Nature* 1995, 377:482-483.
- Dangl JL, Preuss D, Schroeder JI: Talking through walls: Signaling in plant development. *Cell* 1995, 83:1071-1077.
- Day CD, Galgoczy BFC, Irish VF: Genetic ablation of petal and stamen primordia to elucidate cell interactions during floral development. *Development* 1995, 121:2887-2895. [8].
- Doerner P: *Arabidopsis* embryogenesis: Radicle development(s). *Curr Biol* 1995, 5:110-112.
- Eimert K, Wang SM, Lue WL, Chen JC: Monogenic recessive mutations causing both late floral initiation and excess starch accumulation in *Arabidopsis*. *Plant Cell* 1995, 7:1703-1712. [22].
- Graf G, Larkins BA: Endoreduplication in maize endosperm: Involvement of M phase-promoting factor inhibition and induction of S phase-related kinases. *Science* 1995, 269:1262-1264.
- Halliday KJ, Devlin PF, Whitlam GC, Hanhart CJ, Koomneef M: The *ELONGATED* gene of *Arabidopsis* acts independently of light and gibberellins in the control of elongation growth. *Plant J* 1996, 9:305-312. [34].
- Hauser MT, Morikami A, Benfey PN: Conditional root expansion mutants of *Arabidopsis*. *Development* 1995, 121:1237-1252.
- Hemerly A, De Almeida Engler J, Bergounieux C, Van Montagu M, Engler G, Inzé D, Ferreira P: Dominant negative mutants of the Cdc2 kinase uncouple cell division from iterative plant development. *EMBO J* 1995, 14:3925-3936. [22].
- Hempel FD, Feldman LJ: Specification of chimeric flowering shoots in wild-type *Arabidopsis*. *Plant J* 1995, 8:725-731. [57].
- Hicks KA, Sundas A, Meeks-Wagner DR: *Arabidopsis* early-flowering mutants reveal multiple levels of regulation in the vegetative-to-floral transition. *Semin Dev Biol* 1996, in press. [36].
- Jurgens G: Developmental biology - Rooting the meristem. *Nature* 1995, 378:16.
- Kelly A, Bonlander MB, Meeks-Wagner DR: *NFL*, the tobacco homolog of *Leafy* and *Floricula*, is transcriptionally expressed in both vegetative and floral meristems. *Plant Cell* 1995, 7:225-234. [60].
- King R, Bagnall DJ: Photoreceptors and the photoperiodic response controlling flowering of *Arabidopsis*. *Semin Dev Biol* 1996, in press. [53].
- Koelewijn HP, Vandamme JMM: Genetics of male sterility in gynodioecious *Plantago coronopus*. 1. Cytoplasmic variation. *Genetics* 1995, 139:1749-1758.
- Koelewijn HP, Vandamme JMM: Genetics of male sterility in gynodioecious *Plantago coronopus*. 2. Nuclear genetic variation. *Genetics* 1995, 139:1759-1775.
- Koomneef M, Hanhart C, van Loenen-Martinet P, Devries HB: The effect of daylength on the transition to flowering in phytochrome-deficient, late-flowering and double mutants of *Arabidopsis thaliana*. *Physiol Plant* 1995, 95:260-266. [44].
- Laskowski MJ, Williams ME, Nusbaum HC, Sussex IM: Formation of lateral root meristems is a two-stage process. *Development* 1995, 121:3303-3310.
- Laux T, Mayer KFX, Berger J, Jurgens G: The *WUSCHEL* gene is required for shoot and floral meristem integrity in *Arabidopsis*. *Development* 1996, 122:87-96. [17].
- Lee I, Amasino RM: Effect of vernalization, photoperiod and light quality on the flowering phenotype of *Arabidopsis* plants containing the *FRIGIDA* gene. *Plant Physiol* 1995, 108:157-162. [16].
- Lloyd C: Plant morphogenesis - Life on a different plane. *Curr Biol* 1995, 5:1085-1087.
- Long JA, Moan EI, Medford JI, Barton MK: A member of the KNOTTED class of homeodomain proteins encoded by the STM gene of *Arabidopsis*. *Nature* 1996, 379:66-69. [12].
- Lucas WJ, Bouché-Pillon S, Jackson DP, Nguyen L, Baker L, Ding B, Hake S: Selective trafficking of KNOTTED1 homeodomain protein and its mRNA through plasmodesmata. *Science* 1995, 270:1980-1983. [21].
- Lukowitz W, Mayer U, Jurgens G: Cytokinesis in the *Arabidopsis* embryo involves the syntaxin-related KNOLLE gene product. *Cell* 1996, 84:61-71.
- Mandel MA, Yanofsky MF: A gene triggering flower formation in *Arabidopsis*. *Nature* 1995, 377:522-524. [63].
- Martinez-Zapater JM, Jarillo JA, Cruz-Alvarez M, Roldan M, Salinas J: *Arabidopsis* late-flowering five mutants are affected in both vegetative and reproductive development. *Plant J* 1995, 7:543-551. [18].
- McDaniel CN, Hartnett LK, Sangey KA: Regulation of node number in day-neutral *Nicotiana tabacum*: a factor in plant size. *Plant J* 1996, 9:55-61. [3].
- Mittler R, Lam E: *In situ* detection of nDNA fragmentation during the differentiation of tracheary elements in higher plants. *Plant Physiol* 1995, 108:489-493. [1].
- Mozley D, Thomas B: Developmental and photobiological factors affecting photoperiodic induction in *Arabidopsis thaliana* Heynh. *Landsberg erecta*. *J Exp Botany* 1995, 46:173-179. [55].
- Muller KJ, Romano N, Gerstner O, Garciamaroto F, Pozzi C, Salamini F, Rohde W: The barley Hooded mutation caused by a duplication in a homeobox gene intron. *Nature* 1995, 374:727-730.
- Nambara E, Keith K, McCourt P, Naito S: A regulatory role for the AB13 gene in the establishment of embryo maturation in *Arabidopsis thaliana*. *Development* 1995, 121:629-636.
- Putterill J, Robson F, Lee K, Simon R, Coupland G: The *CONSTANS* gene of *Arabidopsis* promotes flowering and encodes a protein showing similarities to zinc finger transcription factors. *Cell* 1995, 80:847-857. [20].
- Reiser L, Modrusan Z, Margossian L, Samach A, Ohad N, Haughn GW, Fischer RL: The *BELL1* gene encodes a homeodomain protein involved in pattern formation in the *Arabidopsis* ovule primordium. *Cell* 1995, 83:735-742.

- Röhrig H, Schmidt J, Walden R, Czaja I, Miklasevics  
 • E, Wieneke U, Schell J, John M: **Growth of tobacco protoplasts stimulated by synthetic lipo-chito-oligosaccharides.** *Science* 1995, 269:841-843. [20].
- Sakai H, Medrano LJ, Meyerowitz EM: **Role of SUPERMAN in maintaining Arabidopsis floral whorl boundaries.** *Nature* 1995, 378:199-203. [7].
- Schaller GE, Bleecker AB: **Ethylene-binding sites generated in yeast expressing the Arabidopsis ETR1 gene.** *Science* 1995, 270:1809-1811.
- Schneeberger RG, Becraft PW, Hake S, Freeling M: **Ectopic expression of the knox homeo box gene rough sheath1 alters cell fate in the maize leaf.** *Genes Dev* 1995, 9:2292-2304.
- Schneeberger RG, Becraft PW, Hake S, Freeling M: **Ectopic expression of the knox homeo box gene ROUGH SHEATH1 alters cell fate in the maize leaf.** *Genes Dev* 1995, 9:2292-2304. [14].
- Simon R, Coupland G: **Arabidopsis genes that regulate flowering time in response to day-length.** *Semin Dev Biol* 1996, in press. [37+].
- Smith LG, Hake S, Sylvester AW: **The tangled-1 mutation alters cell division orientations throughout maize leaf development without altering leaf shape.** *Development* 1996, 122:481-489. [26].
- Smyth DR: **Flower development: Origin of the cauliflower.** *Curr Biol* 1995, 5:361-363.
- Smyth DR: **Plant genetics - Fast flowering.** *Curr Biol* 1996, 6:122-124.
- Sundaresan V, Springer P, Volpe T, Haward S, Jones JDG, Dean C, Ma H, Martienssen R: **Patterns of gene action in plant development revealed by enhancer trap and gene trap transposable elements.** *Genes Dev* 1995, 9:1797-1810.
- Theologis A: **Plant hormones - More than one way to detect ethylene.** *Curr Biol* 1996, 6:144-145.
- Traas J, Bellini C, Nacry P, Kronenberger J, Bouchez D, Caboché M: **Normal differentiation patterns in plants lacking microtubular preprophase bands.** *Nature* 1995, 375:676-677. [24].
- Van den Berg C, Willemsen V, Hage W, Weisbeek  
 • P, Scheres B: **Cell fate in the Arabidopsis root meristem determined by directional signaling.** *Nature* 1995, 378:62-65. [27].
- Vandenberg C, Willemsen V, Hage W, Weisbeek P, Scheres B: **Cell fate in the Arabidopsis root meristem determined by directional signalling.** *Nature* 1995, 378:62-65.
- Vincent C, Carpenter R, Coen ES: **Cell lineage patterns and homeotic gene activity during Antirrhinum flower development.** *Curr Biol* 1995, 5:1449-1458. [5].
- Vincent CA, Carpenter R, Coen ES: **Cell lineage patterns and homeotic gene activity during Antirrhinum flower development.** *Curr Biol* 1995, 5:1449-1458.
- Waites R, Hudson A: **phantastica: A gene required for dorsoventrality of leaves in Antirrhinum majus.** *Development* 1995, 121:2143-2154.
- Weigel D, Nilsson O: **A developmental switch sufficient for flower initiation in diverse plants.** *Nature* 1995, 377:495-500. [62+].
- Weller JL, Nagatani A, Kendrick RE, Murfet IC, Reid JB: **New lv mutants of pea are deficient in phytochrome B.** *Plant Physiol* 1995, 108:525-532. [46+].
- Wilkinson JQ, Lanahan MB, Yen HC, Giovannoni JJ, Klee HJ: **An ethylene-inducible component of signal transduction encoded by never-ripe.** *Science* 1995, 270:1807-1809.
- Wilson A, Dean C: **Analysis of the molecular basis of vernalization in Arabidopsis thaliana.** *Semin Dev Biol* 1996, in press. [19+].
- Yang C-H, Chen L-J, Sung ZR: **Genetic regulation of shoot development in Arabidopsis: role of the EMF genes.** *Dev Biol* 1995, 169:421-435. [32+].
- Brandon EP, Idzerda RL, McKnight GS: **Targeting the mouse genome: A compendium of knockouts. 1.** *Curr Biol* 1995, 5:625-634.
- Brandon EP, Idzerda RL, McKnight GS: **Targeting the mouse genome: A compendium of knockouts. 2.** *Curr Biol* 1995, 5:758-765.
- Brandon EP, Idzerda RL, McKnight GS: **Knockouts - Targeting the mouse genome: A compendium of knockouts. 3.** *Curr Biol* 1995, 5:873-881.
- Davidson LA, Koehl MAR, Keller R, Oster GF: **How do sea urchins invaginate? Using biomechanics to distinguish between mechanisms of primary invagination.** *Development* 1995, 121:2005-2018.
- Downs KM, Gardner RL: **An investigation into early placental ontogeny: Allantoic attachment to the chorion is selective and developmentally regulated.** *Development* 1995, 121:407-416.
- Efstathiadis A: **Epigenetics: A new whiff of monoallelic expression.** *Curr Biol* 1995, 5:21-24.
- Feero WG, Hoffman EP: **Huntington's disease - Their loss is our gain?** *Curr Biol* 1995, 5:1229-1231.
- Fontaineperis J, Jarno V, Leray CF, Li Z, Paulin D: **Mouse chick chimera: A new model to study the in ovo developmental potentialities of mammalian somites.** *Development* 1995, 121:1705-1718.
- Hanks M, Wurst W, Ansoncartwright L, Auerbach AB, Joyner AL: **Rescue of the En-1 mutant phenotype by replacement of En-1 with En-2.** *Science* 1995, 269:679-682.
- Martin GR: **Developmental biology - Why thumbs are up.** *Nature* 1995, 374:410-411.
- Marx J: **Developmental biology - Knocking genes in instead of out.** *Science* 1995, 269:636.
- Welte MA, Duncan I, Lindquist S: **The basis for a heat-induced developmental defect: Defining crucial lesions.** *Genes Dev* 1995, 9:2240-2250.
- Yan L, Pollock GH, Nagase H, Sarraz MP: **A 25.7x10(3) Mr hydra metalloproteinase (HMP1), a member of the astacin family, localizes to the extracellular matrix of Hydra vulgaris in a head-specific manner and has a developmental function.** *Development* 1995, 121:1591-1602.

### Theoretical aspects of development

- Armstrong JF, Kaufman MH, Harrison DJ, Clarke AR: **High-frequency developmental abnormalities in p53-deficient mice.** *Curr Biol* 1995, 5:931-936.
- Balter M: **Developmental biology - In Toulouse, the weather - and the science - are hot.** *Science* 1995, 269:480-481.