Roberto Mayor

List of Publications by Year
in descending order

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132 papers	13,562 citations	22099 59 h-index	24179 110 g-index
149 all docs	149 docs citations	149 times ranked	11270 citing authors

#	Article	IF	Citations
1	Guidelines and definitions for research on epithelialâ€“mesenchymal transition. Nature Reviews Molecular Cell Biology, 2020, 21, 341-352.	16.1	1,195
2	The front and rear of collective cell migration. Nature Reviews Molecular Cell Biology, 2016, 17, 97-109.	16.1	649
3	Contact inhibition of locomotion in vivo controls neural crest directional migration. Nature, 2008, 456, 957-961.	13.7	518
4	Collective Chemotaxis Requires Contact-Dependent Cell Polarity. Developmental Cell, 2010, 19, 39-53.	3.1	465
5	Neural crest delamination and migration: From epithelium-to-mesenchyme transition to collective cell migration. Developmental Biology, 2012, 366, 34-54.	0.9	439
6	Tissue stiffening coordinates morphogenesis by triggering collective cell migration in vivo. Nature, 2018, 554, 523-527.	13.7	404
7	Collective cell migration in development. Journal of Cell Biology, 2016, 212, 143-155.	2.3	356
8	Regulation of Msx genes by a Bmp gradient is essential for neural crest specification. Development (Cambridge), 2003, 130, 6441-6452.	1.2	277
9	Complement Fragment C3a Controls Mutual Cell Attraction during Collective Cell Migration. Developmental Cell, 2011, 21, 1026-1037.	3.1	271
10	Tuning Collective Cell Migration by Cellâ€“Cell Junction Regulation. Cold Spring Harbor Perspectives in Biology, 2017, 9, a029199.	2.3	268
11	The neural crest. Development (Cambridge), 2013, 140, 2247-2251.	1.2	264
12	Chase-and-run between adjacent cell populations promotes directional collective migration. Nature Cell Biology, 2013, 15, 763-772.	4.6	260
13	Essential role of non-canonical Wnt signalling in neural crest migration. Development (Cambridge), 2005, 132, 2587-2597.	1.2	259
14	Keeping in touch with contact inhibition of locomotion. Trends in Cell Biology, 2010, 20, 319-328.	3.6	259
15	Directional migration of neural crest cells in vivo is regulated by Syndecan-4/Rac1 and non-canonical Wnt signaling/RhoA. Development (Cambridge), 2008, 135, 1771-1780.	1.2	253
16	Cadherin Switch during EMT in Neural Crest Cells Leads to Contact Inhibition of Locomotion via Repolarization of Forces. Developmental Cell, 2015, 34, 421-434.	3.1	236
17	Posteriorization by FGF, Wnt, and Retinoic Acid Is Required for Neural Crest Induction. Developmental Biology, 2002, 241, 289-301.	0.9	220
18	Sox10 is required for the early development of the prospective neural crest in Xenopus embryos. Developmental Biology, 2003, 260, 79-96.	0.9	212

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19	Neural Crest Formation in Xenopus laevis: Mechanisms of Xslug Induction. Developmental Biology, 1996, 177, 580-589.	0.9	195
20	Snail precedes Slug in the genetic cascade required for the specification and migration of the Xenopus neural crest. Development (Cambridge), 2003, 130, 483-494.	1.2	194
21	Inhibition of neural crest migration underlies craniofacial dysmorphology and Hirschsprung's disease in Bardetâ€“Biedl syndrome. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 6714-6719.	3.3	178
22	Role of FGF andNogginin Neural Crest Induction. Developmental Biology, 1997, 189, 1-12.	0.9	171
23	Molecular analysis of neural crest migration. Philosophical Transactions of the Royal Society B: Biological Sciences, 2008, 363, 1349-1362.	1.8	155
24	Cadherins in collective cell migration of mesenchymal cells. Current Opinion in Cell Biology, 2012, 24, 677-684.	2.6	153
25	Early induction of neural crest cells: lessons learned from frog, fish and chick. Current Opinion in Genetics and Development, 2002, 12, 452-458.	1.5	152
26	Differential requirements of BMP and Wnt signalling during gastrulation and neurulation define two steps in neural crest induction. Development (Cambridge), 2009, 136, 771-779.	1.2	144
27	Mechanisms and in vivo functions of contact inhibition of locomotion. Nature Reviews Molecular Cell Biology, 2017, 18, 43-55.	16.1	141
28	Mechanisms of Neural Crest Migration. Annual Review of Genetics, 2018, 52, 43-63.	3.2	135
29	Xiro, a Xenopus homolog of the Drosophila Iroquois complex genes, controls development at the neural plate. EMBO Journal, 1998, 17, 181-190.	3.5	133
30	Genetic network during neural crest induction: From cell specification to cell survival. Seminars in Cell and Developmental Biology, 2005, 16, 647-654.	2.3	133
31	The posteriorizing gene<i>Gbx2</i>is a direct target of Wnt signalling and the earliest factor in neural crest induction. Development (Cambridge), 2009, 136, 3267-3278.	1.2	132
32	Collective cell migration of epithelial and mesenchymal cells. Cellular and Molecular Life Sciences, 2013, 70, 3481-3492.	2.4	132
33	In vivo collective cell migration requires an LPAR2-dependent increase in tissue fluidity. Journal of Cell Biology, 2014, 206, 113-127.	2.3	125
34	Expression of Xenopus snail in mesoderm and prospective neural fold ectoderm. Developmental Dynamics, 1993, 198, 108-122.	0.8	124
35	Supracellular contraction at the rear of neural crest cell groups drives collective chemotaxis. Science, 2018, 362, 339-343.	6.0	123
36	The hypoxia factor Hif-1Î± controls neural crest chemotaxis and epithelial to mesenchymal transition. Journal of Cell Biology, 2013, 201, 759-776.	2.3	119

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37	Cadherin-11 regulates protrusive activity in <i>Xenopus</i> cranial neural crest cells upstream of Trio and the small GTPases. Genes and Development, 2009, 23, 1393-1398.	2.7	118
38	In vivo confinement promotes collective migration of neural crest cells. Journal of Cell Biology, 2016, 213, 543-555.	2.3	117
39	Gap junction protein Connexin-43 is a direct transcriptional regulator of N-cadherin in vivo. Nature Communications, 2018, 9, 3846.	5.8	115
40	Neural crest and placode interaction during the development of the cranial sensory system. Developmental Biology, 2014, 389, 28-38.	0.9	113
41	Collective durotaxis along a self-generated stiffness gradient in vivo. Nature, 2021, 600, 690-694.	13.7	110
42	Lamellipodin and the Scar/WAVE complex cooperate to promote cell migration in vivo. Journal of Cell Biology, 2013, 203, 673-689.	2.3	107
43	All Roads Lead to Directional Cell Migration. Trends in Cell Biology, 2020, 30, 852-868.	3.6	101
44	Interplay between Notch signaling and the homeoprotein Xiro1 is required for neural crest induction in Xenopus embryos. Development (Cambridge), 2004, 131, 347-359.	1.2	97
45	Role of BMP signaling and the homeoprotein iroquois in the specification of the cranial placodal field. Developmental Biology, 2004, 272, 89-103.	0.9	93
46	Neural crest migration: interplay between chemorepellents, chemoattractants, contact inhibition, epithelialâ€“mesenchymal transition, and collective cell migration. Wiley Interdisciplinary Reviews: Developmental Biology, 2012, 1, 435-445.	5.9	92
47	Ca2+/H+ exchange by acidic organelles regulates cell migration in vivo. Journal of Cell Biology, 2016, 212, 803-813.	2.3	91
48	Relationship between Gene Expression Domains of Xsnail, Xslug, and Xtwist and Cell Movement in the Prospective Neural Crest of Xenopus. Developmental Biology, 2000, 224, 215-225.	0.9	89
49	Molecular basis of contact inhibition of locomotion. Cellular and Molecular Life Sciences, 2016, 73, 1119-1130.	2.4	89
50	Adjustable viscoelasticity allows for efficient collective cell migration. Seminars in Cell and Developmental Biology, 2019, 93, 55-68.	2.3	87
51	A balance between the anti-apoptotic activity of Slug and the apoptotic activity of msx1 is required for the proper development of the neural crest. Developmental Biology, 2004, 275, 325-342.	0.9	83
52	The role of the non-canonical Wntâ€“planar cell polarity pathway in neural crest migration. Biochemical Journal, 2014, 457, 19-26.	1.7	83
53	Induction and development of neural crest in Xenopus laevis. Cell and Tissue Research, 2001, 305, 203-209.	1.5	75
54	Kremen is required for neural crest induction in<i>Xenopus</i>and promotes LRP6-mediated Wnt signaling. Development (Cambridge), 2007, 134, 4255-4263.	1.2	75

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55	Collective cell migration of the cephalic neural crest: The art of integrating information. Genesis, 2011, 49, 164-176.	0.8	74
56	Par3 controls neural crest migration by promoting microtubule catastrophe during contact inhibition of locomotion. Development (Cambridge), 2013, 140, 4763-4775.	1.2	72
57	Supracellular migration â€“ beyond collective cell migration. Journal of Cell Science, 2019, 132, .	1.2	70
58	Snail1a and Snail1b cooperate in the anterior migration of the axial mesendoderm in the zebrafish embryo. Development (Cambridge), 2007, 134, 4073-4081.	1.2	68
59	Directional Collective Cell Migration Emerges as a Property of Cell Interactions. PLoS ONE, 2014, 9, e104969.	1.1	68
60	Mutual repression between Gbx2 and Otx2 in sensory placodes reveals a general mechanism for ectodermal patterning. Developmental Biology, 2012, 367, 55-65.	0.9	66
61	Animal models for studying neural crest development: is the mouse different?. Development (Cambridge), 2015, 142, 1555-1560.	1.2	63
62	Durotaxis: The Hard Path from InÂVitro to InÂVivo. Developmental Cell, 2021, 56, 227-239.	3.1	63
63	A new role for the Endothelin-1/Endothelin-A receptor signaling during early neural crest specification. Developmental Biology, 2008, 323, 114-129.	0.9	61
64	The homeoprotein Xiro1 is required for midbrain-hindbrain boundary formation. Development (Cambridge), 2002, 129, 1609-1621.	1.2	60
65	Cadherin-11 Mediates Contact Inhibition of Locomotion during Xenopus Neural Crest Cell Migration. PLoS ONE, 2013, 8, e85717.	1.1	60
66	3 Development of Neural Crest in Xenopus. Current Topics in Developmental Biology, 1998, 43, 85-113.	1.0	59
67	Can mesenchymal cells undergo collective cell migration? The case of the neural crest. Cell Adhesion and Migration, 2011, 5, 490-498.	1.1	58
68	PDGF controls contact inhibition of locomotion by regulating N-cadherin during neural crest migration. Development (Cambridge), 2017, 144, 2456-2468.	1.2	58
69	Chemotaxis during neural crest migration. Seminars in Cell and Developmental Biology, 2016, 55, 111-118.	2.3	56
70	Neural crests are actively precluded from the anterior neural fold by a novel inhibitory mechanism dependent on Dickkopf1 secreted by the prechordal mesoderm. Developmental Biology, 2007, 309, 208-221.	0.9	54
71	Directional cell migration in vivo. Cell Adhesion and Migration, 2008, 2, 240-242.	1.1	53
72	Integrating chemotaxis and contact-inhibition during collective cell migration. Small GTPases, 2010, 1, 113-117.	0.7	51

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73	A novel method to study contact inhibition of locomotion using micropatterned substrates. Biology Open, 2013, 2, 901-906.	0.6	51
74	Integrating chemical and mechanical signals in neural crest cell migration. Current Opinion in Genetics and Development, 2019, 57, 16-24.	1.5	51
75	Connexins in migration during development and cancer. Developmental Biology, 2015, 401, 143-151.	0.9	50
76	A novel function for the Xslug gene: control of dorsal mesendoderm development by repressing BMP-4. Mechanisms of Development, 2000, 97, 47-56.	1.7	48
77	Identification of neural crest competence territory: Role of Wnt signaling. Developmental Dynamics, 2004, 229, 109-117.	0.8	48
78	SPIN90 associates with mDia1 and the Arp2/3 complex to regulate cortical actin organization. Nature Cell Biology, 2020, 22, 803-814.	4.6	48
79	A role for Syndecan-4 in neural induction involving ERK- and PKC-dependent pathways. Development (Cambridge), 2009, 136, 575-584.	1.2	41
80	Cell communication with the neural plate is required for induction of neural markers by BMP inhibition: evidence for homeogenetic induction and implications for Xenopus animal cap and chick explant assays. Developmental Biology, 2009, 327, 478-486.	0.9	40
81	<i>Wnt11r</i> is required for cranial neural crest migration. Developmental Dynamics, 2008, 237, 3404-3409.	0.8	39
82	Early neural crest induction requires an initial inhibition of Wnt signals. Developmental Biology, 2012, 365, 196-207.	0.9	39
83	Delamination of neural crest cells requires transient and reversible Wnt inhibition mediated by DACT1/2. Development (Cambridge), 2016, 143, 2194-205.	1.2	39
84	Xenopus brain factor-2 controls mesoderm, forebrain and neural crest development. Mechanisms of Development, 1999, 80, 15-27.	1.7	38
85	The Molecular Basis of Radial Intercalation during Tissue Spreading in Early Development. Developmental Cell, 2016, 37, 213-225.	3.1	38
86	Modelling collective cell migration of neural crest. Current Opinion in Cell Biology, 2016, 42, 22-28.	2.6	36
87	Rules of collective migration: from the wildebeest to the neural crest. Philosophical Transactions of the Royal Society B: Biological Sciences, 2020, 375, 20190387.	1.8	36
88	Redistribution of Adhesive Forces through Src/FAK Drives Contact Inhibition of Locomotion in Neural Crest. Developmental Cell, 2018, 45, 565-579.e3.	3.1	33
89	Calcium mediates dorsoventral patterning of mesoderm in Xenopus. Current Biology, 2001, 11, 1606-1610.	1.8	32
90	Xiro-1controls mesoderm patterning by repressingbmp-4expression in the spemann organizer. Developmental Dynamics, 2001, 222, 368-376.	0.8	31

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91	Regulation of <i>XSnail2</i> expression by Rho GTPases. Developmental Dynamics, 2007, 236, 2555-2566.	0.8	31
92	An optochemical tool for light-induced dissociation of adherens junctions to control mechanical coupling between cells. Nature Communications, 2020, 11, 472.	5.8	31
93	In vivo topology converts competition for cell-matrix adhesion into directional migration. Nature Communications, 2019, 10, 1518.	5.8	30
94	Embryonic Cellâ€“Cell Adhesion. Current Topics in Developmental Biology, 2015, 112, 301-323.	1.0	29
95	Neural crest streaming as an emergent property of tissue interactions during morphogenesis. PLoS Computational Biology, 2019, 15, e1007002.	1.5	28
96	Mechanosensitive ion channels in cell migration. Cells and Development, 2021, 166, 203683.	0.7	28
97	Control of the collective migration of enteric neural crest cells by the Complement anaphylatoxin C3a and N-cadherin. Developmental Biology, 2016, 414, 85-99.	0.9	22
98	Extracellular signals, cell interactions and transcription factors involved in the induction of the neural crest cells. Biological Research, 2002, 35, 267-75.	1.5	22
99	The homeoprotein Xiro1 is required for midbrain-hindbrain boundary formation. Development (Cambridge), 2002, 129, 1609-21.	1.2	21
100	Complement in animal development: Unexpected roles of a highly conserved pathway. Seminars in Immunology, 2013, 25, 39-46.	2.7	20
101	Forcing contact inhibition of locomotion. Trends in Cell Biology, 2015, 25, 373-375.	3.6	20
102	Rediscovering contact inhibition in the embryo. Journal of Microscopy, 2013, 251, 206-211.	0.8	19
103	Michael Abercrombie: contact inhibition of locomotion and more. International Journal of Developmental Biology, 2018, 62, 5-13.	0.3	19
104	Cell traction in collective cell migration and morphogenesis: The chase and run mechanism. Cell Adhesion and Migration, 2015, 9, 380-383.	1.1	18
105	The mechanosensitive channel Piezo1 cooperates with semaphorins to control neural crest migration. Development (Cambridge), 2021, 148, .	1.2	17
106	Beads on the Run: Beads as Alternative Tools for Chemotaxis Assays. Methods in Molecular Biology, 2011, 769, 449-460.	0.4	16
107	Ric-8A, a guanine nucleotide exchange factor for heterotrimeric G proteins, is critical for cranial neural crest cell migration. Developmental Biology, 2013, 378, 74-82.	0.9	15
108	Characterization of Pax3 and Sox10 transgenic Xenopus laevis embryos as tools to study neural crest development. Developmental Biology, 2018, 444, S202-S208.	0.9	14

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109	Directional cell movements downstream of Gbx2 and Otx2 control the assembly of sensory placodes. Biology Open, 2016, 5, 1620-1624.	0.6	13
110	The Ric-8A/GÎ±13/FAK signaling cascade controls focal adhesion formation during neural crest cell migration. Development (Cambridge), 2018, 145, .	1.2	13
111	In Vivo and In Vitro Quantitative Analysis of Neural Crest Cell Migration. Methods in Molecular Biology, 2019, 1976, 135-152.	0.4	12
112	Control of neural crest induction by MarvelD3-mediated attenuation of JNK signalling. Scientific Reports, 2018, 8, 1204.	1.6	10
113	Cell fate decisions during development. Science, 2019, 364, 937-938.	6.0	8
114	Xenopus paraxishomologue shows novel domains of expression. Developmental Dynamics, 2004, 231, 609-613.	0.8	7
115	GÎ±q negatively regulates the Wntâ€Î²â€catenin pathway and dorsal embryonic <i>Xenopus laevis</i> development. Journal of Cellular Physiology, 2008, 214, 483-490.	2.0	7
116	Neural Crest Cell Migration. , 2014, , 73-88.		7
117	MarvelD3 regulates the c-Jun N-terminal kinase pathway during eye development in Xenopus. Biology Open, 2016, 5, 1631-1641.	0.6	7
118	Development of cytoskeletal connections between cells of preimplantation mouse embryos. Roux's Archives of Developmental Biology, 1989, 198, 233-241.	1.2	5
119	Editorial overview: Cell dynamics in development, tissue remodelling, and cancer. Current Opinion in Cell Biology, 2016, 42, iv-vi.	2.6	4
120	Morulae at compaction and the pattern of protein synthesis in mouse embryos. Differentiation, 1994, 55, 175-184.	1.0	2
121	Collective Cell Migration: Wisdom of the Crowds Transforms a Negative Cue into a Positive One. Current Biology, 2019, 29, R205-R207.	1.8	2
122	Self-organized collective cell behaviors as design principles for synthetic developmental biology. Seminars in Cell and Developmental Biology, 2023, 141, 63-73.	2.3	2
123	Moving forward. Cells and Development, 2021, 165, 203654.	0.7	1
124	Reprint of: Mechanosensitive ion channels in cell migration. Cells and Development, 2021, , 203730.	0.7	1
125	PDGF controls contact inhibition of locomotion by regulating N-cadherin during neural crest migration. Journal of Cell Science, 2017, 130, e1.2-e1.2.	1.2	1
126	Collective cell migration in development. Journal of Experimental Medicine, 2016, 213, 2132OIA3.	4.2	1

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127	MoD Special issue on â€œDevelopmental Biology in Latin Americaâ€ Mechanisms of Development, 2018, 154, 1.	1.7	0
128	Editorial â€œMODâ€ Mechanisms of Development, 2020, 161, 103576.	1.7	0
129	20 years of the â€œPractical Course in Developmental Biologyâ€•in Latin America: from Santiago to Quintay, via Juquehy, Buenos Aires and Montevideo. International Journal of Developmental Biology, 2021, 65, 83-91.	0.3	0
130	Neural Crest Determination and Migration. , 2015, , 315-330.		0
131	Ca²⁺/H⁺exchange by acidic organelles regulates cell migration in vivo. Journal of Experimental Medicine, 2016, 213, 2134OIA28.	4.2	0
132	Special rebranding issue: â€œQuantitative cell and developmental biologyâ€ Cells and Development, 2021, , 203758.	0.7	0