Nicholas De Greene

List of Publications by Year
in descending order

134 papers	10,088 citations	41258 49 h-index	38300 95 g-index
144 all docs	144 docs citations	144 times ranked	10184 citing authors

#	Article	IF	Citations
1	Metformin Retards Aging in C.Âelegans by Altering Microbial Folate and Methionine Metabolism. Cell, 2013, 153, 228-239.	13.5	811
2	The genetic basis of mammalian neurulation. Nature Reviews Genetics, 2003, 4, 784-793.	7.7	608
3	Neural tube defects: recent advances, unsolved questions, and controversies. Lancet Neurology, The, 2013, 12, 799-810.	4.9	549
4	Neural Tube Defects. Annual Review of Neuroscience, 2014, 37, 221-242.	5.0	465
5	Neural tube closure: cellular, molecular and biomechanical mechanisms. Development (Cambridge), 2017, 144, 552-566.	1.2	402
6	Genetics and development of neural tube defects. Journal of Pathology, 2010, 220, 217-230.	2.1	391
7	Mutations in Radial Spoke Head Protein Genes RSPH9 and RSPH4A Cause Primary Ciliary Dyskinesia with Central-Microtubular-Pair Abnormalities. American Journal of Human Genetics, 2009, 84, 197-209.	2.6	303
8	Convergent extension, planar-cell-polarity signalling and initiation of mouse neural tube closure. Development (Cambridge), 2007, 134, 789-799.	1.2	284
9	Genetics of human neural tube defects. Human Molecular Genetics, 2009, 18, R113-R129.	1.4	267
10	In vivo genetic ablation by Cre-mediated expression of diphtheria toxin fragment A. Genesis, 2005, 43, 129-135.	0.8	218
11	Inositol prevents folate-resistant neural tube defects in the mouse. Nature Medicine, 1997, 3, 60-66.	15.2	204
12	Host-Microbe Co-metabolism Dictates Cancer Drug Efficacy in C.Âelegans. Cell, 2017, 169, 442-456.e18.	13.5	198
13	Neural tube defectsâ€"disorders of neurulation and related embryonic processes. Wiley Interdisciplinary Reviews: Developmental Biology, 2013, 2, 213-227.	5.9	181
14	Targeted Disruption of the Cln3 Gene Provides a Mouse Model for Batten Disease. Neurobiology of Disease, 1999, 6, 321-334.	2.1	180
15	Mutations in ZMYND10, a Gene Essential for Proper Axonemal Assembly of Inner and Outer Dynein Arms in Humans and Flies, Cause Primary Ciliary Dyskinesia. American Journal of Human Genetics, 2013, 93, 346-356.	2.6	167
16	Mutations in the planar cell polarity genesCELSR1andSCRIBare associated with the severe neural tube defect craniorachischisis. Human Mutation, 2012, 33, 440-447.	1.1	166
17	Development of the vertebrate central nervous system: formation of the neural tube. Prenatal Diagnosis, 2009, 29, 303-311.	1.1	158
18	Folic acid prevents exencephaly in Cited2 deficient mice. Human Molecular Genetics, 2002, 11, 283-293.	1.4	145

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19	Abnormalities of floor plate, notochord and somite differentiation in the loop-tail (Lp) mouse: a model of severe neural tube defects. Mechanisms of Development, 1998, 73, 59-72.	1.7	143
20	Neural plate morphogenesis during mouse neurulation is regulated by antagonism of Bmp signalling. Development (Cambridge), 2007, 134, 3203-3211.	1.2	140
21	High folic acid consumption leads to pseudo-MTHFR deficiency, altered lipid metabolism, and liver injury in mice. American Journal of Clinical Nutrition, 2015, 101, 646-658.	2.2	120
22	Glycine decarboxylase deficiency causes neural tube defects and features of non-ketotic hyperglycinemia in mice. Nature Communications, 2015, 6, 6388.	5.8	116
23	Mouse models of neural tube defects: Investigating preventive mechanisms. American Journal of Medical Genetics, Part C: Seminars in Medical Genetics, 2005, 135C, 31-41.	0.7	101
24	Mutations in genes encoding the glycine cleavage system predispose to neural tube defects in mice and humans. Human Molecular Genetics, 2012, 21, 1496-1503.	1.4	100
25	Gene-environment interactions in the causation of neural tube defects: folate deficiency increases susceptibility conferred by loss of Pax3 function. Human Molecular Genetics, 2008, 17, 3675-3685.	1.4	99
26	Protein deiminases: New players in the developmentally regulated loss of neural regenerative ability. Developmental Biology, 2011, 355, 205-214.	0.9	99
27	Biomechanical coupling facilitates spinal neural tube closure in mouse embryos. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, E5177-E5186.	3.3	92
28	Integrity of the methylation cycle is essential for mammalian neural tube closure. Birth Defects Research Part A: Clinical and Molecular Teratology, 2006, 76, 544-552.	1.6	87
29	Apoptosis is not required for mammalian neural tube closure. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 8233-8238.	3.3	83
30	Regulation of cell protrusions by small GTPases during fusion of the neural folds. ELife, 2016, 5, e13273.	2.8	80
31	Interactions between planar cell polarity genes cause diverse neural tube defects. DMM Disease Models and Mechanisms, 2014, 7, 1153-63.	1.2	77
32	Increased expression of Grainyhead-like-3 rescues spina bifida in a folate-resistant mouse model. Human Molecular Genetics, 2007, 16, 2640-2646.	1.4	73
33	Cardiovascular Defects Associated With Abnormalities in Midline Development in the Loop-tail Mouse Mutant. Circulation Research, 2001, 89, 6-12.	2.0	72
34	Rho kinase-dependent actin turnover and actomyosin disassembly are necessary for mouse spinal neural tube closure. Journal of Cell Science, 2015, 128, 2468-81.	1.2	70
35	Partitioning of One-Carbon Units in Folate and Methionine Metabolism Is Essential for Neural Tube Closure. Cell Reports, 2017, 21, 1795-1808.	2.9	69
36	Planar cell polarity genes and neural tube closure. Birth Defects Research Part C: Embryo Today Reviews, 2003, 69, 318-324.	3.6	68

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37	Oxidative Stress and Apoptosis in Benzo[a]pyrene-Induced Neural Tube Defects. Free Radical Biology and Medicine, 2018, 116, 149-158.	1.3	68
38	Inositols: From Established Knowledge to Novel Approaches. International Journal of Molecular Sciences, 2021, 22, 10575.	1.8	67
39	The emerging role of epigenetic mechanisms in the etiology of neural tube defects. Epigenetics, 2011, 6, 875-883.	1.3	65
40	Cellular basis of neuroepithelial bending during mouse spinal neural tube closure. Developmental Biology, 2015, 404, 113-124.	0.9	64
41	Bloomsbury report on mouse embryo phenotyping: recommendations from the IMPC workshop on embryonic lethal screening. DMM Disease Models and Mechanisms, 2013, 6, 571-9.	1.2	63
42	High dietary folate in pregnant mice leads to pseudo-MTHFR deficiency and altered methyl metabolism, with embryonic growth delay and short-term memory impairment in offspring. Human Molecular Genetics, 2017, 26, ddx004.	1.4	61
43	Retinal Pathology and Function in a Cln3 Knockout Mouse Model of Juvenile Neuronal Ceroid Lipofuscinosis (Batten Disease). Molecular and Cellular Neurosciences, 2002, 19, 515-527.	1.0	58
44	Inositol, neural tube closure and the prevention of neural tube defects. Birth Defects Research, 2017, 109, 68-80.	0.8	58
45	Magnetic resonance virtual histology for embryos: 3D atlases for automated high-throughput phenotyping. NeuroImage, 2011, 54, 769-778.	2.1	57
46	Homocysteine is embryotoxic but does not cause neural tube defects in mouse embryos. Anatomy and Embryology, 2003, 206, 185-191.	1.5	56
47	Dishevelled: linking convergent extension with neural tube closure. Trends in Neurosciences, 2003, 26, 453-455.	4.2	56
48	Specific isoforms of protein kinase C are essential for prevention of folate-resistant neural tube defects by inositol. Human Molecular Genetics, 2003, 13, 7-14.	1.4	53
49	D-chiro-inositol is more effective than myo-inositol in preventing folate-resistant mouse neural tube defects. Human Reproduction, 2002, 17, 2451-2458.	0.4	52
50	Over-expression of Grhl2 causes spina bifida in the Axial defects mutant mouse. Human Molecular Genetics, 2011, 20, 1536-1546.	1.4	50
51	Abnormal folate metabolism in foetuses affected by neural tube defects. Brain, 2006, 130, 1043-1049.	3.7	48
52	Excess methionine suppresses the methylation cycle and inhibits neural tube closure in mouse embryos. FEBS Letters, 2006, 580, 2803-2807.	1.3	47
53	Integrin-Mediated Focal Anchorage Drives Epithelial Zippering during Mouse Neural Tube Closure. Developmental Cell, 2020, 52, 321-334.e6.	3.1	46
54	Developmental expression of palmitoyl protein thioesterase in normal mice. Developmental Brain Research, 1999, 118, 1-11.	2.1	45

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55	EphrinA-EphA receptor interactions in mouse spinal neurulation: implications for neural fold fusion. International Journal of Developmental Biology, 2009, 53, 559-568.	0.3	44
56	Epithelial fusion during neural tube morphogenesis. Birth Defects Research Part A: Clinical and Molecular Teratology, 2012, 94, 817-823.	1.6	44
57	Inositol for the prevention of neural tube defects: a pilot randomised controlled trial. British Journal of Nutrition, 2016, 115, 974-983.	1.2	44
58	Spinal neural tube closure depends on regulation of surface ectoderm identity and biomechanics by Grhl2. Nature Communications, 2019, 10, 2487.	5.8	44
59	Deficient or Excess Folic Acid Supply During Pregnancy Alter Cortical Neurodevelopment in Mouse Offspring. Cerebral Cortex, 2021, 31, 635-649.	1.6	44
60	Zic4, a zinc-finger transcription factor, is expressed in the developing mouse nervous system. Developmental Dynamics, 2005, 233, 1110-1115.	0.8	43
61	Quantitative analysis of myo-inositol in urine, blood and nutritional supplements by high-performance liquid chromatography tandem mass spectrometry. Journal of Chromatography B: Analytical Technologies in the Biomedical and Life Sciences, 2011, 879, 2759-2763.	1.2	42
62	A coming of age: advanced imaging technologies for characterising the developing mouse. Trends in Genetics, 2013, 29, 700-711.	2.9	42
63	Vangl2 disruption alters the biomechanics of late spinal neurulation leading to spina bifida in mouse embryos. DMM Disease Models and Mechanisms, 2018, 11, .	1.2	42
64	A novel mouse model for genetic variation in 10-formyltetrahydrofolate synthetase exhibits disturbed purine synthesis with impacts on pregnancy and embryonic development. Human Molecular Genetics, 2013, 22, 3705-3719.	1.4	41
65	Grainyhead genes and mammalian neural tube closure. Birth Defects Research Part A: Clinical and Molecular Teratology, 2008, 82, 728-735.	1.6	39
66	Understanding the causes and prevention of neural tube defects: Insights from the splotch mouse model. Birth Defects Research Part A: Clinical and Molecular Teratology, 2009, 85, 322-330.	1.6	38
67	Activation of Pax3 target genes is necessary but not sufficient for neurogenesis in the ophthalmic trigeminal placode. Developmental Biology, 2009, 326, 314-326.	0.9	38
68	Expression pattern ofglypican-4 suggests multiple roles during mouse development. Developmental Dynamics, 2005, 233, 1013-1017.	0.8	37
69	Lamin B1 Polymorphism Influences Morphology of the Nuclear Envelope, Cell Cycle Progression, and Risk of Neural Tube Defects in Mice. PLoS Genetics, 2012, 8, e1003059.	1.5	37
70	Proteome changes associated with hippocampal MRI abnormalities in the lithium pilocarpine-induced model of convulsive status epilepticus. Proteomics, 2007, 7, 1336-1344.	1.3	35
71	Quantitative analysis of s-adenosylmethionine and s-adenosylhomocysteine in neurulation-stage mouse embryos by liquid chromatography tandem mass spectrometry. Journal of Chromatography B: Analytical Technologies in the Biomedical and Life Sciences, 2006, 844, 112-118.	1.2	34
72	Microtubules, polarity and vertebrate neural tube morphogenesis. Journal of Anatomy, 2016, 229, 63-74.	0.9	34

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73	Both the folate cycle and betaineâ€homocysteine methyltransferase contribute methyl groups for DNA methylation in mouse blastocysts. FASEB Journal, 2015, 29, 1069-1079.	0.2	33
74	Differential Protein Expression at the Stage of Neural Tube Closure in the Mouse Embryo. Journal of Biological Chemistry, 2002, 277, 41645-41651.	1.6	32
75	Vangl-dependent planar cell polarity signalling is not required for neural crest migration in mammals. Development (Cambridge), 2014, 141, 3153-3158.	1.2	32
76	A Murine Model for Juvenile NCL: Gene Targeting of MouseCln3. Molecular Genetics and Metabolism, 1999, 66, 309-313.	0.5	31
77	The genetic background of thecurly tailstrain confers susceptibility to folateâ€deficiencyâ€induced exencephaly. Birth Defects Research Part A: Clinical and Molecular Teratology, 2010, 88, 76-83.	1.6	31
78	Mechanical properties measured by atomic force microscopy define health biomarkers in ageing C. elegans. Nature Communications, 2020, 11, 1043.	5.8	29
79	Folate metabolite profiling of different cell types and embryos suggests variation in folate one-carbon metabolism, including developmental changes in human embryonic brain. Molecular and Cellular Biochemistry, 2013, 378, 229-236.	1.4	28
80	Aberrant methylation of Pax3 gene and neural tube defects in association with exposure to polycyclic aromatic hydrocarbons. Clinical Epigenetics, 2019, 11, 13.	1.8	27
81	Nucleotide precursors prevent folic acid-resistant neural tube defects in the mouse. Brain, 2013, 136, 2836-2841.	3.7	25
82	Maternal Inositol Status and Neural Tube Defects: A Role for the Human Yolk Sac in Embryonic Inositol Delivery?. Advances in Nutrition, 2021, 12, 212-222.	2.9	25
83	Dolutegravir in pregnant mice is associated with increased rates of fetal defects at therapeutic but not at supratherapeutic levels. EBioMedicine, 2021, 63, 103167.	2.7	25
84	Claudins are essential for cell shape changes and convergent extension movements during neural tube closure. Developmental Biology, 2017, 428, 25-38.	0.9	24
85	Neural tube closure depends on expression of Grainyhead-like 3 in multiple tissues. Developmental Biology, 2018, 435, 130-137.	0.9	24
86	Cell non-autonomy amplifies disruption of neurulation by mosaic Vangl2 deletion in mice. Nature Communications, 2021, 12, 1159.	5.8	24
87	Convergent Extension Analysis in Mouse Whole Embryo Culture. Methods in Molecular Biology, 2012, 839, 133-146.	0.4	24
88	Regional differences in the expression of laminin isoforms during mouse neural tube development. Matrix Biology, 2011, 30, 301-309.	1.5	23
89	Formate supplementation enhances folate-dependent nucleotide biosynthesis and prevents spina bifida in a mouse model of folic acid-resistant neural tube defects. Biochimie, 2016, 126, 63-70.	1.3	23
90	Neural tube defects induced by folate deficiency in mutant curly tail (Grhl3) embryos are associated with alteration in folate oneâ€carbon metabolism but are unlikely to result from diminished methylation. Birth Defects Research Part A: Clinical and Molecular Teratology, 2010, 88, 612-618.	1.6	22

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91	Valproic acid disrupts the biomechanics of late spinal neural tube closure in mouse embryos. Mechanisms of Development, 2018, 149, 20-26.	1.7	22
92	Overexpression of Grainyhead-like 3 causes spina bifida and interacts genetically with mutant alleles of Grhl2 and Vangl2 in mice. Human Molecular Genetics, 2018, 27, 4218-4230.	1.4	21
93	Cellular mechanisms underlying Pax3-related neural tube defects and their prevention by folic acid. DMM Disease Models and Mechanisms, 2019, 12, .	1.2	21
94	Novel mouse model of encephalocele: post-neurulation origin and relationship to open neural tube defects. DMM Disease Models and Mechanisms, 2019, 12, .	1.2	20
95	An update on the use of inositols in preventing gestational diabetes mellitus (GDM) and neural tube defects (NTDs). Expert Opinion on Drug Metabolism and Toxicology, 2020, 16, 1187-1198.	1.5	20
96	Rho GTPases in mammalian spinal neural tube closure. Small GTPases, 2018, 9, 283-289.	0.7	19
97	Rho kinase-dependent apical constriction counteracts M-phase apical expansion to enable mouse neural tube closure. Journal of Cell Science, 2019, 132, .	1.2	19
98	A new mechanism for cannabidiol in regulating the oneâ€carbon cycle and methionine levels inDictyosteliumand in mammalian epilepsy models. British Journal of Pharmacology, 2020, 177, 912-928.	2.7	19
99	Sex differences in the prevalence of neural tube defects and preventive effects of folic acid (FA) supplementation among five counties in northern China: results from a population-based birth defect surveillance programme. BMJ Open, 2018, 8, e022565.	0.8	18
100	Expression of MUL, a gene encoding a novel RBCC family ring-finger protein, in human and mouse embryogenesis. Mechanisms of Development, 2001, 108, 221-225.	1.7	17
101	Regulation of glycine metabolism by the glycine cleavage system and conjugation pathway in mouse models of <scp>nonâ€ketotic</scp> hyperglycinemia. Journal of Inherited Metabolic Disease, 2020, 43, 1186-1198.	1.7	17
102	Hindbrain neuropore tissue geometry determines asymmetric cell-mediated closure dynamics in mouse embryos. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	17
103	Postâ€translational regulation of Crmp in developing and regenerating chick spinal cord. Developmental Neurobiology, 2010, 70, 456-471.	1.5	16
104	Impaired folate 1-carbon metabolism causes formate-preventable hydrocephalus in glycine decarboxylaseâ€“deficient mice. Journal of Clinical Investigation, 2020, 130, 1446-1452.	3.9	16
105	Is LMNB1 a susceptibility gene for neural tube defects in humans?. Birth Defects Research Part A: Clinical and Molecular Teratology, 2013, 97, 398-402.	1.6	14
106	Refinement of inducible gene deletion in embryos of pregnant mice. Birth Defects Research, 2020, 112, 196-204.	0.8	14
107	High resolution MRI reveals global changes in brains of Cln3 mutant mice. European Journal of Paediatric Neurology, 2001, 5, 103-107.	0.7	13
108	Bloomsbury report on mouse embryo phenotyping: recommendations from the IMPC workshop on embryonic lethal screening. DMM Disease Models and Mechanisms, 2013, 6, 1049-1049.	1.2	13

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109	Neural tube defects : Prevention by folic acid and other vitamins. Indian Journal of Pediatrics, 2000, 67, 915-921.	0.3	12
110	Glycine Cleavage System H Protein Is Essential for Embryonic Viability, Implying Additional Function Beyond the Glycine Cleavage System. Frontiers in Genetics, 2021, 12, 625120.	1.1	12
111	Defining a PARticular Pathway of Neural Tube Closure. Developmental Cell, 2010, 18, 1-2.	3.1	11
112	Epithelial dynamics shed light on mechanisms underlying ear canal defects. Development (Cambridge), 2020, 147, .	1.2	11
113	The Molecular Basis of GROD-Storing Neuronal Ceroid Lipofuscinoses in Scotland. Molecular Genetics and Metabolism, 1999, 66, 245-247.	0.5	10
114	Do cells become homeless during neural tube closure?. Cell Cycle, 2009, 8, 2479-2480.	1.3	9
115	Use of highâ€frequency ultrasound to study the prenatal development of cranial neural tube defects and hydrocephalus in Gldcâ€deficient mice. Prenatal Diagnosis, 2017, 37, 273-281.	1.1	9
116	Novel exomphalos genetic mouse model: The importance of accurate phenotypic classification. Journal of Pediatric Surgery, 2013, 48, 2036-2042.	0.8	8
117	Mouse whole embryo culture: Evaluating the requirement for rat serum as culture medium. Birth Defects Research, 2019, 111, 1165-1177.	0.8	8
118	Genetic Basis of Neural Tube Defects. , 2017, , 1-28.		8
119	Genetic interaction of Pax3 mutation and canonical Wnt signaling modulates neural tube defects and neural crest abnormalities. Genesis, 2021, 59, e23445.	0.8	6
120	Embryonic mechanisms underlying the prevention of neural tube defects by vitamins. Mental Retardation and Developmental Disabilities Research Reviews, 1998, 4, 264-268.	3.5	5
121	Spina bifida-predisposing heterozygous mutations in Planar Cell Polarity genes and Zic2 reduce bone mass in young mice. Scientific Reports, 2018, 8, 3325.	1.6	5
122	Vangl2-environment interaction causes severe neural tube defects, without abnormal neuroepithelial convergent extension. DMM Disease Models and Mechanisms, 2021, , .	1.2	5
123	Diffusion microscopic MRI of the mouse embryo: Protocol and practical implementation in the splotch mouse model. Magnetic Resonance in Medicine, 2015, 73, 731-739.	1.9	3
124	Passive Smoking During the Periconceptional Period and Risk for Neural Tube Defects in Offspring â€" Five Counties, Shanxi Province, China, 2010â€"2016. China CDC Weekly, 2021, 3, 778-782.	1.0	3
125	Dolutegravir and rat whole embryo culture. Birth Defects Research, 2022, 114, 23-24.	0.8	3
126	Could microRNAs be biomarkers for neural tube defects?. Journal of Neurochemistry, 2012, 122, 485-486.	2.1	2

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127	Identification of the genomic mutation in Epha4rb-2J/rb-2J mice. Genome, 2016, 59, 439-448.	0.9	2
128	Genetics and Developmental Biology of Closed Dysraphic Conditions. , 2019, , 325-344.		2
129	Dynamic acetylation profile during mammalian neurulation. Birth Defects Research, 2020, 112, 205-211.	0.8	2
130	Two-Photon Cell and Tissue Level Laser Ablation Methods to Study Morphogenetic Biomechanics. Methods in Molecular Biology, 2022, 2438, 217-230.	0.4	2
131	Preventive Management of Children with Congenital Anomalies and Syndromes. European Journal of Paediatric Neurology, 2001, 5, 89.	0.7	1
132	Genetically Determined Folate Deficiency Is Associated With Abnormal Hepatic Folate Profiles in the Spontaneously Hypertensive Rat. Physiological Research, 2018, 67, 417-422.	0.4	1
133	Genetic Basis of Neural Tube Defects. , 2020, , 2275-2294.		1
134	Eph and Ephrin Variants in Malaysian Neural Tube Defect Families. Genes, 2022, 13, 952.	1.0	1