Dorothee GÃ¼nzel

List of Publications by Year
in descending order

96 papers	7,968 citations	66343 42 h-index	51608 86 g-index
97 all docs	97 docs citations	97 times ranked	8599 citing authors

#	Article	IF	Citations
1	Claudins and the Modulation of Tight Junction Permeability. Physiological Reviews, 2013, 93, 525-569.	28.8	1,043
2	Changes in expression and distribution of claudin 2, 5 and 8 lead to discontinuous tight junctions and barrier dysfunction in active Crohn's disease. Gut, 2007, 56, 61-72.	12.1	1,005
3	E-cadherin is essential for in vivo epidermal barrier function by regulating tight junctions. EMBO Journal, 2005, 24, 1146-1156.	7.8	395
4	Claudin-2, a component of the tight junction, forms a paracellular water channel. Journal of Cell Science, 2010, 123, 1913-1921.	2.0	345
5	Microbial butyrate and its role for barrier function in the gastrointestinal tract. Annals of the New York Academy of Sciences, 2012, 1258, 52-59.	3.8	329
6	Claudins and Other Tight Junction Proteins. , 2012, 2, 1819-1852.		308
7	Tricellulin Forms a Barrier to Macromolecules in Tricellular Tight Junctions without Affecting Ion Permeability. Molecular Biology of the Cell, 2009, 20, 3713-3724.	2.1	288
8	Molecular Basis for Cation Selectivity in Claudin-2â€“based Paracellular Pores: Identification of an Electrostatic Interaction Site. Journal of General Physiology, 2009, 133, 111-127.	1.9	273
9	Claudin-3 acts as a sealing component of the tight junction for ions of either charge and uncharged solutes. Biochimica Et Biophysica Acta - Biomembranes, 2010, 1798, 2048-2057.	2.6	193
10	CNNM2, Encoding a Basolateral Protein Required for Renal Mg2+ Handling, Is Mutated in Dominant Hypomagnesemia. American Journal of Human Genetics, 2011, 88, 333-343.	6.2	184
11	Disease-associated mutations affect intracellular traffic and paracellular Mg2+ transport function of Claudin-16. Journal of Clinical Investigation, 2006, 116, 878-891.	8.2	171
12	Claudin-10 exists in six alternatively spliced isoforms that exhibit distinct localization and function. Journal of Cell Science, 2009, 122, 1507-1517.	2.0	170
13	In tight junctions, claudins regulate the interactions between occludin, tricellulin and marvelD3, which, inversely, modulate claudin oligomerization. Journal of Cell Science, 2013, 126, 554-564.	2.0	145
14	Claudins of intestine and nephron â€“ a correlation of molecular tight junction structure and barrier function. Acta Physiologica, 2011, 201, 133-140.	3.8	125
15	The effect of chitosan on transcellular and paracellular mechanisms in the intestinal epithelial barrier. Biomaterials, 2012, 33, 2791-2800.	11.4	108
16	TRPV4â€mediated regulation of epithelial permeability. FASEB Journal, 2006, 20, 1802-1812.	0.5	106
17	Cell polarity-determining proteins Par-3 and PP-1 are involved in epithelial tight junction defects in coeliac disease. Gut, 2012, 61, 220-228.	12.1	106
18	Claudin-17 forms tight junction channels with distinct anion selectivity. Cellular and Molecular Life Sciences, 2012, 69, 2765-2778.	5.4	103

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19	Chargeâ€selective claudin channels. Annals of the New York Academy of Sciences, 2012, 1257, 20-28.	3.8	96
20	Disruption of the K+ Channel Î²-Subunit KCNE3 Reveals an Important Role in Intestinal and Tracheal Clâ^' Transport. Journal of Biological Chemistry, 2010, 285, 7165-7175.	3.4	95
21	Claudinâ€2â€mediated cation and water transport share a common pore. Acta Physiologica, 2017, 219, 521-536.	3.8	93
22	Targeted deletion of murine<i>Cldn16</i>identifies extra- and intrarenal compensatory mechanisms of Ca²⁺and Mg²⁺wasting. American Journal of Physiology - Renal Physiology, 2010, 298, F1152-F1161.	2.7	91
23	Two-Path Impedance Spectroscopy for Measuring Paracellular and Transcellular Epithelial Resistance. Biophysical Journal, 2009, 97, 2202-2211.	0.5	85
24	Mosaic expression of claudins in thick ascending limbs of Henle results in spatial separation of paracellular Na ⁺ and Mg ²⁺ transport. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, E219-E227.	7.1	84
25	Improved Cell Line IPEC-J2, Characterized as a Model for Porcine Jejunal Epithelium. PLoS ONE, 2013, 8, e79643.	2.5	83
26	Claudin-3 and Claudin-5 Protein Folding and Assembly into the Tight Junction Are Controlled by Non-conserved Residues in the Transmembrane 3 (TM3) and Extracellular Loop 2 (ECL2) Segments. Journal of Biological Chemistry, 2014, 289, 7641-7653.	3.4	76
27	Oral and Fecal Campylobacter concisus Strains Perturb Barrier Function by Apoptosis Induction in HT-29/B6 Intestinal Epithelial Cells. PLoS ONE, 2011, 6, e23858.	2.5	70
28	Aerolysin From Aeromonas hydrophila Perturbs Tight Junction Integrity and Cell Lesion Repair in Intestinal Epithelial HT-29/B6 Cells. Journal of Infectious Diseases, 2011, 204, 1283-1292.	4.0	63
29	A Transgenic Probiotic Secreting a Parasite Immunomodulator for Site-Directed Treatment of Gut Inflammation. Molecular Therapy, 2014, 22, 1730-1740.	8.2	63
30	Calciumâ€magnesium interactions in pancreatic acinar cells. FASEB Journal, 2001, 15, 659-672.	0.5	61
31	Î±-Haemolysin of<i>Escherichia coli</i>in IBD: a potentiator of inflammatory activity in the colon. Gut, 2014, 63, 1893-1901.	12.1	60
32	TcpC protein from E. coli Nissle improves epithelial barrier function involving PKCÎ¶ and ERK1/2 signaling in HT-29/B6 cells. Mucosal Immunology, 2014, 7, 369-378.	6.0	56
33	Claudins: vital partners in transcellular and paracellular transport coupling. Pflugers Archiv European Journal of Physiology, 2017, 469, 35-44.	2.8	54
34	Escherichiaï¿½coli ?-haemolysin induces focal leaks in colonic epithelium: a novel mechanism of bacterial translocation. Cellular Microbiology, 2007, 9, 2530-2540.	2.1	52
35	Water channels and barriers formed by claudins. Annals of the New York Academy of Sciences, 2017, 1397, 100-109.	3.8	51
36	Paracellular transport of phosphate along the intestine. American Journal of Physiology - Renal Physiology, 2019, 317, G233-G241.	3.4	51

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37	Altered paracellular cation permeability due to a rare CLDN10B variant causes anhidrosis and kidney damage. PLoS Genetics, 2017, 13, e1006897.	3.5	50
38	Function and regulation of claudins in the thick ascending limb of Henle. Pflugers Archiv European Journal of Physiology, 2009, 458, 77-88.	2.8	48
39	Tight Junction Proteins as Channel Formers and Barrier Builders. Annals of the New York Academy of Sciences, 2009, 1165, 211-219.	3.8	48
40	Claudinâ€16 affects transcellular Cl^{âˆ’} secretion in MDCK cells. Journal of Physiology, 2009, 587, 3777-3793.	2.9	46
41	In Colon Epithelia, Clostridium perfringens Enterotoxin Causes Focal Leaks by Targeting Claudins Which are Apically Accessible Due to Tight Junction Derangement. Journal of Infectious Diseases, 2018, 217, 147-157.	4.0	46
42	Perspectives on tight junction research. Annals of the New York Academy of Sciences, 2012, 1257, 1-19.	3.8	44
43	Diets high in fermentable protein and fibre alter tight junction protein composition with minor effects on barrier function in piglet colon. British Journal of Nutrition, 2014, 111, 1040-1049.	2.3	44
44	Deletion of claudin-10 rescues claudin-16â€“deficient mice from hypomagnesemia and hypercalciuria. Kidney International, 2018, 93, 580-588.	5.2	44
45	Sheep rumen and omasum primary cultures and source epithelia: barrier function aligns with expression of tight junction proteins. Journal of Experimental Biology, 2011, 214, 2871-2882.	1.7	39
46	Probing the <i>cis</i>-arrangement of prototype tight junction proteins claudin-1 and claudin-3. Biochemical Journal, 2015, 468, 449-458.	3.7	37
47	The MgtC Virulence Factor of Salmonella enterica Serovar Typhimurium Activates Na + ,K + -ATPase. Journal of Bacteriology, 2006, 188, 5586-5594.	2.2	36
48	Tight junctions of the proximal tubule and their channel proteins. Pflugers Archiv European Journal of Physiology, 2017, 469, 877-887.	2.8	36
49	Yersinia enterocolitica induces epithelial barrier dysfunction through regional tight junction changes in colonic HT-29/B6 cell monolayers. Laboratory Investigation, 2011, 91, 310-324.	3.7	35
50	Key role of short-chain fatty acids in epithelial barrier failure during ruminal acidosis. Journal of Dairy Science, 2017, 100, 6662-6675.	3.4	35
51	Claudinâ€15 forms a water channel through the tight junction with distinct function compared to claudinâ€2. Acta Physiologica, 2020, 228, e13334.	3.8	35
52	Tight junction strand formation by claudinâ€10 isoforms and claudinâ€10a/â€10b chimeras. Annals of the New York Academy of Sciences, 2017, 1405, 102-115.	3.8	33
53	Restitution of single-cell defects in the mouse colon epithelium differs from that of cultured cells. American Journal of Physiology - Regulatory Integrative and Comparative Physiology, 2006, 290, R1496-R1507.	1.8	32
54	Tight junctions and differentiation â€“ a chicken or the egg question?. Experimental Dermatology, 2012, 21, 171-175.	2.9	31

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55	High-dose dietary zinc oxide mitigates infection with transmissible gastroenteritis virus in piglets. BMC Veterinary Research, 2014, 10, 75.	1.9	31
56	Zinc treatment is efficient against Escherichia coli Î±-haemolysin-induced intestinal leakage in mice. Scientific Reports, 2017, 7, 45649.	3.3	31
57	Molecular basis of claudin-17 anion selectivity. Cellular and Molecular Life Sciences, 2016, 73, 185-200.	5.4	28
58	Polar and charged extracellular residues conserved among barrierâ€forming claudins contribute to tight junction strand formation. Annals of the New York Academy of Sciences, 2017, 1397, 143-156.	3.8	27
59	Paracellular Transport through Healthy and Cystic Fibrosis Bronchial Epithelial Cell Lines â€" Do We Have a Proper Model?. PLoS ONE, 2014, 9, e100621.	2.5	27
60	Highâ€Resolution Analysis of Barrier Function. Annals of the New York Academy of Sciences, 2009, 1165, 74-81.	3.8	26
61	Claudin Function in the Thick Ascending Limb of Henle's Loop. Annals of the New York Academy of Sciences, 2009, 1165, 152-162.	3.8	24
62	From TER to transâ€•and paracellular resistance: lessons from impedance spectroscopy. Annals of the New York Academy of Sciences, 2012, 1257, 142-151.	3.8	24
63	Epithelia of the ovine and bovine forestomach express basolateral maxi-anion channels permeable to the anions of short-chain fatty acids. Pflugers Archiv European Journal of Physiology, 2014, 466, 1689-1712.	2.8	23
64	Listeriolysin O affects barrier function and induces chloride secretion in HT-29/B6 colon epithelial cells. American Journal of Physiology - Renal Physiology, 2009, 296, G1350-G1359.	3.4	22
65	Molecular and structural transmembrane determinants critical for embedding claudin-5 into tight junctions reveal a distinct four-helix bundle arrangement. Biochemical Journal, 2014, 464, 49-60.	3.7	21
66	Claudin-10a Deficiency Shifts Proximal Tubular Cl- Permeability to Cation Selectivity via Claudin-2 Redistribution. Journal of the American Society of Nephrology: JASN, 2022, 33, 699-717.	6.1	20
67	Determination of [Mg(2+)]i - an update on the use of Mg(2+)-selective electrodes. BioMetals, 2002, 15, 237-249.	4.1	19
68	Anti-Diarrheal Mechanism of the Traditional Remedy Uzara via Reduction of Active Chloride Secretion. PLoS ONE, 2011, 6, e18107.	2.5	19
69	The marine biotoxin okadaic acid affects intestinal tight junction proteins in human intestinal cells. Toxicology in Vitro, 2019, 58, 150-160.	2.4	19
70	Channel functions of claudins in the organization of biological systems. Biochimica Et Biophysica Acta - Biomembranes, 2020, 1862, 183344.	2.6	19
71	Quantification of Mg2+ extrusion and cytosolic Mg2+-buffering in Xenopus oocytes. Archives of Biochemistry and Biophysics, 2007, 458, 3-15.	3.0	18
72	Differential day-night expression of tight junction components in murine retinal pigment epithelium. Experimental Eye Research, 2020, 193, 107985.	2.6	14

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73	Mg-ATP binding: its modification by spermine, the relevance to cytosolic Mg2+ buffering, changes in the intracellular ionized Mg2+ concentration and the estimation of Mg2+ by 31P-NMR. Experimental Physiology, 1999, 84, 231-252.	2.0	13
74	Na + -dependent regulation of the free Mg 2+ concentration in neuropile glial cells and P neurones of the leech Hirudo medicinalis. Pflugers Archiv European Journal of Physiology, 1999, 437, 354-362.	2.8	13
75	Altered Cytokine Expression and Barrier Properties after In Vitro Infection of Porcine Epithelial Cells with Enterotoxigenic<i>Escherichia coli</i>and Probiotic<i>Enterococcus faecium</i>. Mediators of Inflammation, 2017, 2017, 1-13.	3.0	13
76	Zinc prevents intestinal epithelial barrier dysfunction induced by alpha-hemolysin-producing Escherichia coli 536 infection in porcine colon. Veterinary Microbiology, 2020, 243, 108632.	1.9	12
77	Biophysical Methods to Study Tight Junction Permeability. Current Topics in Membranes, 2010, , 39-78.	0.9	11
78	A novel claudin-10 mutation with a unique mechanism in two unrelated families with HELIX syndrome. Kidney International, 2021, 100, 415-429.	5.2	11
79	Differences in IgY gut absorption in gastric rainbow trout (Oncorhynchus mykiss) and agastric common carp (Cyprinus carpio) assessed in vivo and in vitro. Comparative Biochemistry and Physiology Part - C: Toxicology and Pharmacology, 2015, 167, 58-64.	2.6	10
80	Characterization of Caco-2 cells stably expressing the protein-based zinc probe eCalwy-5 as a model system for investigating intestinal zinc transport. Journal of Trace Elements in Medicine and Biology, 2018, 49, 296-304.	3.0	9
81	Defective claudin-10 causes a novel variation of HELIX syndrome through compromised tight junction strand assembly. Genes and Diseases, 2022, 9, 1301-1314.	3.4	9
82	Tight junction channels claudinâ€10b and claudinâ€15: Functional mapping of poreâ€lining residues. Annals of the New York Academy of Sciences, 2022, 1515, 129-142.	3.8	9
83	Physiology, pathophysiology, and clinical impact of claudins. Pflugers Archiv European Journal of Physiology, 2017, 469, 1-2.	2.8	7
84	Activation of AMPA/Kainate Receptors but Not Acetylcholine Receptors Causes Mg2+ Influx into Retzius Neurones of the Leech Hirudo medicinalis. Journal of General Physiology, 2003, 122, 727-739.	1.9	6
85	Direct assessment of individual skin barrier components by electrical impedance spectroscopy. Allergy: European Journal of Allergy and Clinical Immunology, 2021, 76, 3094-3106.	5.7	6
86	Norovirus non-structural protein p20 leads to impaired restitution of epithelial defects by inhibition of actin cytoskeleton remodelling. Scandinavian Journal of Gastroenterology, 2010, 45, 1307-1319.	1.5	5
87	Use of Mg2+ and Ca2+ macroelectrodes to measure binding in extracellular-like physiological solutions. Frontiers in Bioscience - Landmark, 2005, 10, 905.	3.0	4
88	A comparative study of ammonia transport across ruminal epithelia from <i>Bos indicus</i> crossbreds versus <i>Bos taurus</i>. Animal Science Journal, 2018, 89, 1692-1700.	1.4	4
89	Mg2+-Malate Co-Transport, a Mechanism for Na+-Independent Mg2+ Transport in Neurons of the Leech Hirudo medicinalis. Journal of Neurophysiology, 2005, 94, 441-453.	1.8	3
90	New insights into intestinal secretion. Gut, 2014, 63, 1371-1372.	12.1	3

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91	Zinc strengthens the jejunal barrier by reversibly tightening the paracellular route. American Journal of Physiology - Renal Physiology, 2017, 313, G537-G548.	3.4	3
92	Discerning Apical and Basolateral Properties of HT-29/B6 and IPEC-J2 Cell Layers by Impedance Spectroscopy, Mathematical Modeling and Machine Learning. PLoS ONE, 2013, 8, e62913.	2.5	3
93	Phospholipid effects on SGLT1-mediated glucose transport in rabbit ileum brush border membrane vesicles. Biochimica Et Biophysica Acta - Biomembranes, 2019, 1861, 182985.	2.6	1
94	The tight junction protein claudinâ€2 forms a paracellular water channel. FASEB Journal, 2009, 23, 796.5.	0.5	1
95	Molecular Basis for Cation Selectivity in Claudin-2â€"based Paracellular Pores: Identification of an Electrostatic Interaction Site. Journal of Cell Biology, 2009, 184, i3-i3.	5.2	0
96	Using an Artificial Neural Network to Determine Electrical Properties of Epithelia. Lecture Notes in Computer Science, 2010, , 211-216.	1.3	0