David J Thornton

List of Publications by Citations

135 papers	7,596 citations	50 h-index	84 g-index
145 ext. papers	8,667 ext. citations	5.7 avg, IF	5.72 L-index

#	Paper	IF	Citations
135	Structure and function of the polymeric mucins in airways mucus. *Annual Review of Physiology*, **2008**, 70, 459-86	23.1	563
134	Aberrant mucin assembly in mice causes endoplasmic reticulum stress and spontaneous inflammation resembling ulcerative colitis. *PLoS Medicine*, **2008**, 5, e54	11.6	496
133	Muc5b is required for airway defence. *Nature*, **2014**, 505, 412-6	50.4	450
132	Heterogeneity of airways mucus: variations in the amounts and glycoforms of the major oligomeric mucins MUC5AC and MUC5B. *Biochemical Journal*, **2002**, 361, 537-546	3.8	257
131	From mucins to mucus: toward a more coherent understanding of this essential barrier. *Proceedings of the American Thoracic Society*, **2004**, 1, 54-61		249
130	Muc5ac: a critical component mediating the rejection of enteric nematodes. *Journal of Experimental Medicine*, **2011**, 208, 893-900	16.6	200
129	Heterogeneity of airways mucus: variations in the amounts and glycoforms of the major oligomeric mucins MUC5AC and MUC5B. *Biochemical Journal*, **2002**, 361, 537-46	3.8	177
128	Salivary mucin MG1 is comprised almost entirely of different glycosylated forms of the MUC5B gene product. *Glycobiology*, **1999**, 9, 293-302	5.8	170
127	Respiratory mucins: identification of core proteins and glycoforms. *Biochemical Journal*, **1996**, 316 (Pt 3), 967-75	3.8	170
126	Identification of two glycoforms of the MUC5B mucin in human respiratory mucus. Evidence for a cysteine-rich sequence repeated within the molecule. *Journal of Biological Chemistry*, **1997**, 272, 9561-6	5.4	139
125	Mucin gene deficiency in mice impairs host resistance to an enteric parasitic infection. *Gastroenterology*, **2010**, 138, 1763-71	13.3	137
124	Quantitation of mucus glycoproteins blotted onto nitrocellulose membranes. *Analytical Biochemistry*, **1989**, 182, 160-4	3.1	130
123	Tracheobronchial air-liquid interface cell culture: a model for innate mucosal defense of the upper airways?. *American Journal of Physiology - Lung Cellular and Molecular Physiology*, **2009**, 296, L92-L100	5.8	126
122	Mucus glycoproteins from SnormalShuman tracheobronchial secretion. *Biochemical Journal*, **1990**, 265, 179-86	3.8	124
121	Analysis of respiratory mucus glycoproteins in asthma: a detailed study from a patient who died in status asthmaticus. *American Journal of Respiratory Cell and Molecular Biology*, **1995**, 13, 748-56	5.7	110
120	Targeted induction of endoplasmic reticulum stress induces cartilage pathology. *PLoS Genetics*, **2009**, 5, e1000691	6	105
119	MUC5B is the major mucin in the gel phase of sputum in chronic obstructive pulmonary disease. *American Journal of Respiratory and Critical Care Medicine*, **2008**, 178, 1033-9	10.2	104

118	Calcium-dependent protein interactions in MUC5B provide reversible cross-links in salivary mucus. *Journal of Biological Chemistry*, **2003**, 278, 28703-10	5.4	101
117	Physical characterization of a low-charge glycoform of the MUC5B mucin comprising the gel-phase of an asthmatic respiratory mucous plug. *Biochemical Journal*, **1999**, 338, 507-513	3.8	90
116	Mucins: the frontline defence of the lung. *Biochemical Society Transactions*, **2018**, 46, 1099-1106	5.1	86
115	Regulation of MUC5AC mucin secretion and airway surface liquid metabolism by IL-1beta in human bronchial epithelia. *American Journal of Physiology - Lung Cellular and Molecular Physiology*, **2004**, 286, L320-30	5.8	85
114	Methods for separation and deglycosylation of mucin subunits. *Analytical Biochemistry*, **1995**, 227, 162-7	3.1	81
113	Serine protease(s) secreted by the nematode Trichuris muris degrade the mucus barrier. *PLoS Neglected Tropical Diseases*, **2012**, 6, e1856	4.8	80
112	Particle tracking microrheology of purified gastrointestinal mucins. *Biopolymers*, **2014**, 101, 366-77	2.2	79
111	Ex vivo sputum analysis reveals impairment of protease-dependent mucus degradation by plasma proteins in acute asthma. *American Journal of Respiratory and Critical Care Medicine*, **2009**, 180, 203-10	10.2	78
110	Reduced cell proliferation and increased apoptosis are significant pathological mechanisms in a murine model of mild pseudoachondroplasia resulting from a mutation in the C-terminal domain of COMP. *Human Molecular Genetics*, **2007**, 16, 2072-88	5.6	78
109	Site-specific N-linked glycosylation analysis on the human salivary mucin MUC5B using Precursor Ion Discovery on the CAPLC Q-TOF system. *International Journal of Experimental Pathology*, **2004**, 85, A71-A72	2.8	78
108	Identification of molecular intermediates in the assembly pathway of the MUC5AC mucin. *Journal of Biological Chemistry*, **2004**, 279, 15698-705	5.4	75
107	Identification in vitreous and molecular cloning of opticin, a novel member of the family of leucine-rich repeat proteins of the extracellular matrix. *Journal of Biological Chemistry*, **2000**, 275, 2123-9	5.4	75
106	Juxtaposition of the two distal CX3C motifs via intrachain disulfide bonding is essential for the folding of Tim10. *Journal of Biological Chemistry*, **2003**, 278, 38505-13	5.4	72
105	Characterization of mucins from cultured normal human tracheobronchial epithelial cells. *American Journal of Physiology - Lung Cellular and Molecular Physiology*, **2000**, 278, L1118-28	5.8	71
104	The lung environment controls alveolar macrophage metabolism and responsiveness in type 2 inflammation. *Nature Immunology*, **2019**, 20, 571-580	19.1	69
103	MUC16 is produced in tracheal surface epithelium and submucosal glands and is present in secretions from normal human airway and cultured bronchial epithelial cells. *International Journal of Biochemistry and Cell Biology*, **2007**, 39, 1943-54	5.6	68
102	Physical characterization of the MUC5AC mucin: a highly oligomeric glycoprotein whether isolated from cell culture or in vivo from respiratory mucous secretions. *Biochemical Journal*, **2000**, 347, 37-44	3.8	68
101	Cystic fibrosis: an inherited disease affecting mucin-producing organs. *International Journal of Biochemistry and Cell Biology*, **2014**, 52, 136-45	5.6	67

100	Mucus glycoproteins from cystic fibrotic sputum. Macromolecular properties and structural architectureS *Biochemical Journal*, **1991**, 276 (Pt 3), 667-75	3.8	67
99	Mucin structure. The structure and heterogeneity of respiratory mucus glycoproteins. *The American Review of Respiratory Disease*, **1991**, 144, S4-9		66
98	The normal trachea is cleaned by MUC5B mucin bundles from the submucosal glands coated with the MUC5AC mucin. *Biochemical and Biophysical Research Communications*, **2017**, 492, 331-337	3.4	65
97	Isolation and physical characterization of the MUC7 (MG2) mucin from saliva: evidence for self-association. *Biochemical Journal*, **1998**, 334 (Pt 2), 415-22	3.8	65
96	Assembly of the respiratory mucin MUC5B: a new model for a gel-forming mucin. *Journal of Biological Chemistry*, **2014**, 289, 16409-20	5.4	64
95	A new role for mucins in immunity: insights from gastrointestinal nematode infection. *International Journal of Biochemistry and Cell Biology*, **2013**, 45, 364-74	5.6	64
94	Assembly of Tim9 and Tim10 into a functional chaperone. *Journal of Biological Chemistry*, **2002**, 277, 36100-8	3.4	62
93	Identification of glycoproteins on nitrocellulose membranes and gels. *Molecular Biotechnology*, **1996**, 5, 171-6	3	62
92	Influenza A induces the major secreted airway mucin MUC5AC in a protease-EGFR-extracellular regulated kinase-Sp1-dependent pathway. *American Journal of Respiratory Cell and Molecular Biology*, **2012**, 47, 149-57	5.7	61
91	Decreased chondrocyte proliferation and dysregulated apoptosis in the cartilage growth plate are key features of a murine model of epiphyseal dysplasia caused by a matn3 mutation. *Human Molecular Genetics*, **2007**, 16, 1728-41	5.6	61
90	Concentrated solutions of salivary MUC5B mucin do not replicate the gel-forming properties of saliva. *Biochemical Journal*, **2002**, 362, 289-296	3.8	59
89	A secretory cell type develops alongside multiciliated cells, ionocytes and goblet cells, and provides a protective, anti-infective function in the frog embryonic mucociliary epidermis. *Development (Cambridge)*, **2014**, 141, 1514-25	6.6	54
88	An unfolded protein response is the initial cellular response to the expression of mutant matrilin-3 in a mouse model of multiple epiphyseal dysplasia. *Cell Stress and Chaperones*, **2010**, 15, 835-49	4	51
87	Collagen XXVII is developmentally regulated and forms thin fibrillar structures distinct from those of classical vertebrate fibrillar collagens. *Journal of Biological Chemistry*, **2007**, 282, 12791-5	5.4	51
86	Identification of two major populations of mucins in respiratory secretions. *American Journal of Respiratory and Critical Care Medicine*, **1994**, 150, 823-32	10.2	51
85	MUC5AC and a Glycosylated Variant of MUC5B Alter Mucin Composition in Children With Acute Asthma. *Chest*, **2017**, 152, 771-779	5.3	49
84	Changes in the mucosal barrier during acute and chronic Trichuris muris infection. *Parasite Immunology*, **2011**, 33, 45-55	2.2	49
83	Extracellular vesicles induce protective immunity against Trichuris muris. *Parasite Immunology*, **2018**, 40, e12536	2.2	47

82	Identification of a nonmucin glycoprotein (gp-340) from a purified respiratory mucin preparation: evidence for an association involving the MUC5B mucin. *Glycobiology*, **2001**, 11, 969-77	5.8	44
81	Concentrated solutions of salivary MUC5B mucin do not replicate the gel-forming properties of saliva. *Biochemical Journal*, **2002**, 362, 289-96	3.8	42
80	Expression and secretion of Aspergillus fumigatus proteases are regulated in response to different protein substrates. *Fungal Biology*, **2012**, 116, 1003-12	2.8	41
79	Structural and immunological studies of keratan sulphates from mature bovine articular cartilage. *Biochemical Journal*, **1989**, 260, 277-82	3.8	41
78	Biosynthesis of the MUC2 mucin: evidence for a slow assembly of fully glycosylated units. *Biochemical Journal*, **1996**, 315 (Pt 3), 1055-60	3.8	40
77	Identification of salivary mucin MUC7 binding proteins from Streptococcus gordonii. *BMC Microbiology*, **2009**, 9, 163	4.5	39
76	Structural and functional characterization of recombinant matrilin-3 A-domain and implications for human genetic bone diseases. *Journal of Biological Chemistry*, **2007**, 282, 34634-43	5.4	37
75	Evidence for shared epitopes within the SnakedSprotein domains of human mucus glycoproteins. A study performed by using polyclonal antibodies and electron microscopy. *Biochemical Journal*, **1991** , 274 (Pt 1), 293-6	3.8	36
74	Reorganisation of the salivary mucin network by dietary components: insights from green tea polyphenols. *PLoS ONE*, **2014**, 9, e108372	3.7	36
73	Granule-stored MUC5B mucins are packed by the non-covalent formation of N-terminal head-to-head tetramers. *Journal of Biological Chemistry*, **2018**, 293, 5746-5754	5.4	35
72	Tea derived galloylated polyphenols cross-link purified gastrointestinal mucins. *PLoS ONE*, **2014**, 9, e105302	3.7	35
71	Physical characterization of a low-charge glycoform of the MUC5B mucin comprising the gel-phase of an asthmatic respiratory mucous plug. *Biochemical Journal*, **1999**, 338, 507	3.8	35
70	Desulfurization of mucin by Pseudomonas aeruginosa: influence of sulfate in the lungs of cystic fibrosis patients. *Journal of Medical Microbiology*, **2012**, 61, 1644-1653	3.2	34
69	Physical characterization of the MUC5AC mucin: a highly oligomeric glycoprotein whether isolated from cell culture or in vivo from respiratory mucous secretions. *Biochemical Journal*, **2000**, 347 Pt 1, 37-44	3.8	33
68	The major secreted protein of the whipworm parasite tethers to matrix and inhibits interleukin-13 function. *Nature Communications*, **2019**, 10, 2344	17.4	32
67	Secondary Structure and Glycosylation of Mucus Glycoproteins by Raman Spectroscopies. *Analytical Chemistry*, **2016**, 88, 11609-11615	7.8	32
66	Proteomic analysis of mouse growth plate cartilage. *Proteomics*, **2006**, 6, 6549-53	4.8	31
65	Heterogeneity of mucus glycoproteins from cystic fibrotic sputum. Are there different families of mucins?. *Biochemical Journal*, **1991**, 276 (Pt 3), 677-82	3.8	31

64	A sticky end for gastrointestinal helminths; the role of the mucus barrier. *Parasite Immunology*, **2018**, 40, e12517	2.2	30
63	Physical characterization of the MUC5AC mucin: a highly oligomeric glycoprotein whether isolated from cell culture or in vivo from respiratory mucous secretions. *Biochemical Journal*, **2000**, 347, 37	3.8	29
62	Physical characterization of a low-charge glycoform of the MUC5B mucin comprising the gel-phase of an asthmatic respiratory mucous plug. *Biochemical Journal*, **1999**, 338 (Pt 2), 507-13	3.8	28
61	Airway Mucus Hyperconcentration in Non-Cystic Fibrosis Bronchiectasis. *American Journal of Respiratory and Critical Care Medicine*, **2020**, 201, 661-670	10.2	28
60	A study of the intracellular and secreted forms of the MUC2 mucin from the PC/AA intestinal cell line. *Glycobiology*, **1999**, 9, 739-46	5.8	27
59	Muc5b and Muc5ac are the major oligomeric mucins in equine airway mucus. *American Journal of Physiology - Lung Cellular and Molecular Physiology*, **2007**, 292, L1396-404	5.8	25
58	ILC2s mediate systemic innate protection by priming mucus production at distal mucosal sites. *Journal of Experimental Medicine*, **2019**, 216, 2714-2723	16.6	25
57	Immune-driven alterations in mucin sulphation is an important mediator of Trichuris muris helminth expulsion. *PLoS Pathogens*, **2017**, 13, e1006218	7.6	24
56	Proteomic analysis of polymeric salivary mucins: no evidence for MUC19 in human saliva. *Biochemical Journal*, **2008**, 413, 545-52	3.8	22
55	Aspergillosis and the role of mucins in cystic fibrosis. *Pediatric Pulmonology*, **2017**, 52, 548-555	3.5	21
54	A glycopolymer improves vascoelasticity and mucociliary transport of abnormal cystic fibrosis mucus. *JCI Insight*, **2019**, 4,	9.9	21
53	New Role of Nod Proteins in Regulation of Intestinal Goblet Cell Response in the Context of Innate Host Defense in an Enteric Parasite Infection. *Infection and Immunity*, **2016**, 84, 275-85	3.7	19
52	A combined small-angle X-ray and neutron scattering study of the structure of purified soluble gastrointestinal mucins. *Biopolymers*, **2014**, 101, 1154-64	2.2	19
51	A reproducible protocol for analysis of the proteome of Trypanosoma brucei by 2-dimensional gel electrophoresis. *Molecular and Biochemical Parasitology*, **2003**, 128, 107-10	1.9	19
50	Identification of glycoproteins on nitrocellulose membranes and gels. *Methods in Molecular Biology*, **1994**, 32, 119-28	1.4	19
49	The MUC5B mucin polymer is dominated by repeating structural motifs and its topology is regulated by calcium and pH. *Scientific Reports*, **2019**, 9, 17350	4.9	19
48	TGF- decreases baseline and IL-13-stimulated mucin production by primary human bronchial epithelial cells. *Experimental Lung Research*, **2013**, 39, 39-47	2.3	18
47	Reassessment of the importance of mucins in determining sputum properties in cystic fibrosis. *Journal of Cystic Fibrosis*, **2014**, 13, 260-6	4.1	17

46	Gel-forming and cell-associated mucins: preparation for structural and functional studies. *Methods in Molecular Biology*, **2012**, 842, 27-47	1.4	16
45	Electron-microscopic and electrophoretic studies of bovine femoral-head cartilage proteoglycan fractions. *Biochemical Journal*, **1986**, 240, 41-8	3.8	16
44	Detecting, visualising, and quantifying mucins. *Methods in Molecular Biology*, **2012**, 842, 49-66	1.4	16
43	Trickle infection and immunity to Trichuris muris. *PLoS Pathogens*, **2019**, 15, e1007926	7.6	16
42	A novel role for Gtb1p in glucose trimming of N-linked glycans. *Glycobiology*, **2009**, 19, 1408-16	5.8	15
41	Structural studies of two populations of keratan sulphate chains from mature bovine articular cartilage. *Glycoconjugate Journal*, **1989**, 6, 209-18	3	15
40	Biosynthesis of the polymeric gel-forming mucin MUC5B. *American Journal of Physiology - Lung Cellular and Molecular Physiology*, **2016**, 310, L993-L1002	5.8	15
39	Functional characterization of the mucus barrier on the skin surface. *Proceedings of the National Academy of Sciences of the United States of America*, **2018**, 115, 726-731	11.5	14
38	Vaccination Against Whipworm: Identification of Potential Immunogenic Proteins in Trichuris muris Excretory/Secretory Material. *Scientific Reports*, **2018**, 8, 4508	4.9	14
37	Characterization of neopeptides in equine articular cartilage degradation. *Journal of Orthopaedic Research*, **2016**, 34, 106-20	3.8	14
36	Intestinal mucin activates human dendritic cells and IL-8 production in a glycan-specific manner. *Journal of Biological Chemistry*, **2018**, 293, 8543-8553	5.4	13
35	Separation and identification of mucins and their glycoforms. *Methods in Molecular Biology*, **2000**, 125, 77-85	1.4	13
34	Heterogeneity and size distribution of gel-forming mucins. *Methods in Molecular Biology*, **2000**, 125, 87-96	1.4	13
33	Mucin biosynthesis and macromolecular assembly. *Biochemical Society Transactions*, **1995**, 23, 819-21	5.1	13
32	Mucins and their receptors in chronic lung disease. *Clinical and Translational Immunology*, **2020**, 9, e01126	6.8	12
31	The C-terminal dimerization domain of the respiratory mucin MUC5B functions in mucin stability and intracellular packaging before secretion. *Journal of Biological Chemistry*, **2019**, 294, 17105-17116	5.4	12
30	Mucins and Mucus **2015**, 231-250		11
29	A detection and quantification label-free tool to speed up downstream processing of model mucins. *PLoS ONE*, **2018**, 13, e0190974	3.7	10

28	Disulfide disruption reverses mucus dysfunction in allergic airway disease. *Nature Communications*, **2021**, 12, 249	17.4	10
27	Analysis of the cartilage proteome from three different mouse models of genetic skeletal diseases reveals common and discrete disease signatures. *Biology Open*, **2013**, 2, 802-11	2.2	9
26	Partial characterisation of high-molecular weight glycoconjugates in the trail mucus of the freshwater pond snail Lymnaea stagnalis. *Comparative Biochemistry and Physiology - B Biochemistry and Molecular Biology*, **2004**, 137, 475-86	2.3	9
25	Intracellular Processing of Human Secreted Polymeric Airway Mucins. *Annals of the American Thoracic Society*, **2018**, 15, S154-S158	4.7	9
24	Loss of matrilin 1 does not exacerbate the skeletal phenotype in a mouse model of multiple epiphyseal dysplasia caused by a Matn3 V194D mutation. *Arthritis and Rheumatism*, **2012**, 64, 1529-39		8
23	Interaction between mycobacteria and mucus on a human respiratory tissue organ culture model with an air interface. *Experimental Lung Research*, **2004**, 30, 17-29	2.3	8
22	An investigation of a maximum entropy method for the processing of 1H and 13C nmr spectra from glycosaminoglycan oligo- and poly-saccharides. *European Polymer Journal*, **1989**, 25, 861-869	5.2	8
21	A study of the interaction between cartilage proteoglycan and link protein. *Biochemical Journal*, **1987**, 248, 943-51	3.8	8
20	MUB Binds to Lactoferrin and Stands as a Specific Neutrophil Marker. *Cell Chemical Biology*, **2018**, 25, 483-493.e9	8.2	7
19	Detection and quantitation of mucins using chemical, lectin, and antibody methods. *Methods in Molecular Biology*, **2000**, 125, 45-55	1.4	7
18	Mucus. *Current Biology*, **2021**, 31, R938-R945	6.3	7
17	Assembly and organization of the N-terminal region of mucin MUC5AC: Indications for structural and functional distinction from MUC5B. *Proceedings of the National Academy of Sciences of the United States of America*, **2021**, 118,	11.5	7
16	Muc5b is the major polymeric mucin in mucus from thoroughbred horses with and without airway mucus accumulation. *PLoS ONE*, **2011**, 6, e19678	3.7	4
15	The alternatively spliced type III connecting segment of fibronectin is a zinc-binding module. *Matrix Biology*, **2007**, 26, 485-93	11.4	4
14	The glycosaminoglycans of pig colonic wall connective tissue. *Biochimica Et Biophysica Acta - General Subjects*, **1983**, 757, 219-25	4	4
13	Measuring Airway Mucin 2 in Patients with Severe Chronic Obstructive Pulmonary Disease with Bacterial Colonization. *Annals of the American Thoracic Society*, **2016**, 13, 2103-2104	4.7	4
12	An enzyme-linked immunosorbent assay (ELISA) of denatured cartilage link protein. *Biochimica Et Biophysica Acta - General Subjects*, **1987**, 925, 347-55	4	3
11	Defining the early stages of intestinal colonisation by whipworms		3

List of Publications

10	The biochemical characterization of aggrecan from normal and tibial-dyschondroplastic chicken growth-plate cartilage. *Biochemical Journal*, **2000**, 351, 517-525	3.8	2
9	Structure and Biochemistry of Human Respiratory Mucins **1997**, 19-39		2
8	The expression of mucin genes and the presence of mucin gene products in the equine endometrium. *Research in Veterinary Science*, **2013**, 95, 169-75	2.5	1
7	Histochemical methods used in biochemical approaches to mucus glycoproteins. *Acta Manilana*, **1990**, 40, 133-5		1
6	Disulfide disruption reverses mucus dysfunction in allergic airway disease		1
5	Defining the early stages of intestinal colonisation by whipworms.. *Nature Communications*, **2022**, 13, 1725	17.4	1
4	The lipophilic cyclic peptide cyclosporin A induces aggregation of gel-forming mucins.. *Scientific Reports*, **2022**, 12, 6153	4.9	0
3	The biochemical characterization of aggrecan from normal and tibial-dyschondroplastic chicken growth-plate cartilage. *Biochemical Journal*, **2000**, 351, 517	3.8	
2	Monoclonal antibody recognizing a core epitope on mucin. *Disease Markers*, **1998**, 14, 99-112	3.2	
1	The supramolecular packing of the gel-forming MUC5B and MUC2 mucins and its importance for cystic fibrosis **2016**, 15-16		