Michael A Mcdonough

List of Publications by Citations

122 papers	8,658 citations	47 h-index	92 g-index
131 ext. papers	9,569 ext. citations	8.5 avg, IF	5.47 L-index

#	Paper	IF	Citations
122	The obesity-associated FTO gene encodes a 2-oxoglutarate-dependent nucleic acid demethylase. *Science*, **2007**, 318, 1469-72	33.3	1119
121	The oncometabolite 2-hydroxyglutarate inhibits histone lysine demethylases. *EMBO Reports*, **2011**, 12, 463-9	6.5	719
120	Structural studies on 2-oxoglutarate oxygenases and related double-stranded beta-helix fold proteins. *Journal of Inorganic Biochemistry*, **2006**, 100, 644-69	4.2	348
119	Inhibition of 2-oxoglutarate dependent oxygenases. *Chemical Society Reviews*, **2011**, 40, 4364-97	58.5	295
118	Cellular oxygen sensing: Crystal structure of hypoxia-inducible factor prolyl hydroxylase (PHD2). *Proceedings of the National Academy of Sciences of the United States of America*, **2006**, 103, 9814-9	11.5	278
117	Crystal structures of histone demethylase JMJD2A reveal basis for substrate specificity. *Nature*, **2007**, 448, 87-91	50.4	266
116	Regulation of Jumonji-domain-containing histone demethylases by hypoxia-inducible factor (HIF)-1alpha. *Biochemical Journal*, **2008**, 416, 387-94	3.8	245
115	Posttranslational hydroxylation of ankyrin repeats in IkappaB proteins by the hypoxia-inducible factor (HIF) asparaginyl hydroxylase, factor inhibiting HIF (FIH). *Proceedings of the National Academy of Sciences of the United States of America*, **2006**, 103, 14767-72	11.5	235
114	Structural studies on human 2-oxoglutarate dependent oxygenases. *Current Opinion in Structural Biology*, **2010**, 20, 659-72	8.1	210
113	Inhibitor scaffolds for 2-oxoglutarate-dependent histone lysine demethylases. *Journal of Medicinal Chemistry*, **2008**, 51, 7053-6	8.3	202
112	Structural basis for binding of hypoxia-inducible factor to the oxygen-sensing prolyl hydroxylases. *Structure*, **2009**, 17, 981-9	5.2	174
111	The enzymes of β-lactam biosynthesis. *Natural Product Reports*, **2013**, 30, 21-107	15.1	172
110	Asparaginyl hydroxylation of the Notch ankyrin repeat domain by factor inhibiting hypoxia-inducible factor. *Journal of Biological Chemistry*, **2007**, 282, 24027-38	5.4	167
109	Structural and mechanistic studies on the inhibition of the hypoxia-inducible transcription factor hydroxylases by tricarboxylic acid cycle intermediates. *Journal of Biological Chemistry*, **2007**, 282, 3293-301	5.4	164
108	Structural basis of metallo-β-lactamase, serine-β-lactamase and penicillin-binding protein inhibition by cyclic boronates. *Nature Communications*, **2016**, 7, 12406	17.4	162
107	Role of the jelly-roll fold in substrate binding by 2-oxoglutarate oxygenases. *Current Opinion in Structural Biology*, **2012**, 22, 691-700	8.1	146
106	Selective inhibitors of the JMJD2 histone demethylases: combined nondenaturing mass spectrometric screening and crystallographic approaches. *Journal of Medicinal Chemistry*, **2010**, 53, 1810-8	8.3	139

105	Clinical features and management of gamma-hydroxybutyrate (GHB) withdrawal: a review. *Drug and Alcohol Dependence*, **2004**, 75, 3-9	4.9	129
104	Structure of human RNA N□methyladenine demethylase ALKBH5 provides insights into its mechanisms of nucleic acid recognition and demethylation. *Nucleic Acids Research*, **2014**, 42, 4741-54	20.1	117
103	5-Carboxy-8-hydroxyquinoline is a Broad Spectrum 2-Oxoglutarate Oxygenase Inhibitor which Causes Iron Translocation. *Chemical Science*, **2013**, 4, 3110-3117	9.4	113
102	Selective inhibition of factor inhibiting hypoxia-inducible factor. *Journal of the American Chemical Society*, **2005**, 127, 7680-1	16.4	113
101	Structural basis for inhibition of the fat mass and obesity associated protein (FTO). *Journal of Medicinal Chemistry*, **2013**, 56, 3680-8	8.3	108
100	A 1.2-A snapshot of the final step of bacterial cell wall biosynthesis. *Proceedings of the National Academy of Sciences of the United States of America*, **2001**, 98, 1427-31	11.5	105
99	Plant growth regulator daminozide is a selective inhibitor of human KDM2/7 histone demethylases. *Journal of Medicinal Chemistry*, **2012**, 55, 6639-43	8.3	102
98	Structural Basis of Metallo-□Lactamase Inhibition by Captopril Stereoisomers. *Antimicrobial Agents and Chemotherapy*, **2016**, 60, 142-50	5.9	98
97	Rhodanine hydrolysis leads to potent thioenolate mediated metallo-□lactamase inhibition. *Nature Chemistry*, **2014**, 6, 1084-90	17.6	94
96	Hydroxylation of the eukaryotic ribosomal decoding center affects translational accuracy. *Proceedings of the National Academy of Sciences of the United States of America*, **2014**, 111, 4019-24	11.5	91
95	Selective small molecule probes for the hypoxia inducible factor (HIF) prolyl hydroxylases. *ACS Chemical Biology*, **2013**, 8, 1488-96	4.9	84
94	Structures of two kinetic intermediates reveal species specificity of penicillin-binding proteins. *Journal of Molecular Biology*, **2002**, 322, 111-22	6.5	78
93	Cyclic Boronates Inhibit All Classes of □Lactamases. *Antimicrobial Agents and Chemotherapy*, **2017**, 61,	5.9	75
92	Crystal Structure of the 2-Oxoglutarate- and Fe(II)-Dependent Lysyl Hydroxylase JMJD6. *Journal of Molecular Biology*, **2010**,	6.5	74
91	Structure of human phytanoyl-CoA 2-hydroxylase identifies molecular mechanisms of Refsum disease. *Journal of Biological Chemistry*, **2005**, 280, 41101-10	5.4	73
90	Ribosomal oxygenases are structurally conserved from prokaryotes to humans. *Nature*, **2014**, 510, 422-426	36.4	71
89	Dynamic combinatorial chemistry employing boronic acids/boronate esters leads to potent oxygenase inhibitors. *Angewandte Chemie - International Edition*, **2012**, 51, 6672-5	16.4	71
88	Structural and mechanistic studies on □butyrobetaine hydroxylase. *Chemistry and Biology*, **2010**, 17, 1316-24		70

87	Inhibition of histone demethylases by 4-carboxy-2,2'-bipyridyl compounds. *ChemMedChem*, **2011**, 6, 759-764	3.7	69
86	Kinetic rationale for selectivity toward N- and C-terminal oxygen-dependent degradation domain substrates mediated by a loop region of hypoxia-inducible factor prolyl hydroxylases. *Journal of Biological Chemistry*, **2008**, 283, 3808-15	5.4	64
85	Disruption of dimerization and substrate phosphorylation inhibit factor inhibiting hypoxia-inducible factor (FIH) activity. *Biochemical Journal*, **2004**, 383, 429-37	3.8	62
84	Factor-inhibiting hypoxia-inducible factor (FIH) catalyses the post-translational hydroxylation of histidinyl residues within ankyrin repeat domains. *FEBS Journal*, **2011**, 278, 1086-97	5.7	60
83	Linking of 2-oxoglutarate and substrate binding sites enables potent and highly selective inhibition of JmjC histone demethylases. *Angewandte Chemie - International Edition*, **2012**, 51, 1631-4	16.4	59
82	Asparagine and aspartate hydroxylation of the cytoskeletal ankyrin family is catalyzed by factor-inhibiting hypoxia-inducible factor. *Journal of Biological Chemistry*, **2011**, 286, 7648-60	5.4	57
81	Oxidation by 2-oxoglutarate oxygenases: non-haem iron systems in catalysis and signalling. *Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences*, **2005**, 363, 807-28; discussion 1035-40	3	53
80	NMR-filtered virtual screening leads to non-metal chelating metallo-β-lactamase inhibitors. *Chemical Science*, **2017**, 8, 928-937	9.4	52
79	Human oxygen sensing may have origins in prokaryotic elongation factor Tu prolyl-hydroxylation. *Proceedings of the National Academy of Sciences of the United States of America*, **2014**, 111, 13331-6	11.5	52
78	Structural insights into how 5-hydroxymethylation influences transcription factor binding. *Chemical Communications*, **2014**, 50, 1794-6	5.8	51
77	Autocatalysed oxidative modifications to 2-oxoglutarate dependent oxygenases. *FEBS Journal*, **2012**, 279, 1563-75	5.7	47
76	Studies on the reaction of nitric oxide with the hypoxia-inducible factor prolyl hydroxylase domain 2 (EGLN1). *Journal of Molecular Biology*, **2011**, 410, 268-79	6.5	47
75	Mutation analysis of HIF prolyl hydroxylases (PHD/EGLN) in individuals with features of phaeochromocytoma and renal cell carcinoma susceptibility. *Endocrine-Related Cancer*, **2011**, 18, 73-83	5.7	45
74	Crystal structure of penicillin G acylase from the Bro1 mutant strain of Providencia rettgeri. *Protein Science*, **1999**, 8, 1971-81	6.3	45
73	Asparagine beta-hydroxylation stabilizes the ankyrin repeat domain fold. *Molecular BioSystems*, **2009**, 5, 52-8		44
72	Dynamic combinatorial mass spectrometry leads to inhibitors of a 2-oxoglutarate-dependent nucleic acid demethylase. *Journal of Medicinal Chemistry*, **2012**, 55, 2173-84	8.3	43
71	Evidence that two enzyme-derived histidine ligands are sufficient for iron binding and catalysis by factor inhibiting HIF (FIH). *Journal of Biological Chemistry*, **2008**, 283, 25971-8	5.4	43
70	Crystal structure of the 2-oxoglutarate- and Fe(II)-dependent lysyl hydroxylase JMJD6. *Journal of Molecular Biology*, **2010**, 401, 211-22	6.5	42

69	Identification of a pathogenic FTO mutation by next-generation sequencing in a newborn with growth retardation and developmental delay. *Journal of Medical Genetics*, **2016**, 53, 200-7	5.8	36
68	Crystal structure of human persulfide dioxygenase: structural basis of ethylmalonic encephalopathy. *Human Molecular Genetics*, **2015**, 24, 2458-69	5.6	36
67	Rhamnogalacturonan lyase reveals a unique three-domain modular structure for polysaccharide lyase family 4. *FEBS Letters*, **2004**, 565, 188-94	3.8	35
66	Studying the active-site loop movement of the SPR Paolo metallo-βlactamase-1Electronic supplementary information (ESI) available: Procedures for protein expression and purification, F-labelling, crystallisation, data collection, and structure determination, table of crystallographic data, table of crystallographic parameters and refinement statistics, figures showing binding mode	9.4	34
65	Crystal structure of the PHF8 Jumonji domain, an Nepsilon-methyl lysine demethylase. *FEBS Letters*, **2010**, 584, 825-30 pped-flow meas. *Chemical Science*, **2015**, 6, 956-963	3.8	34
64	Structural and stereoelectronic insights into oxygenase-catalyzed formation of ethylene from 2-oxoglutarate. *Proceedings of the National Academy of Sciences of the United States of America*, **2017**, 114, 4667-4672	11.5	33
63	In Silico Fragment-Based Design Identifies Subfamily B1 Metallo-βlactamase Inhibitors. *Journal of Medicinal Chemistry*, **2018**, 61, 1255-1260	8.3	32
62	Comparison of Verona Integron-Borne Metallo-βLactamase (VIM) Variants Reveals Differences in Stability and Inhibition Profiles. *Antimicrobial Agents and Chemotherapy*, **2015**, 60, 1377-84	5.9	30
61	Structural and mechanistic studies on carboxymethylproline synthase (CarB), a unique member of the crotonase superfamily catalyzing the first step in carbapenem biosynthesis. *Journal of Biological Chemistry*, **2005**, 280, 34956-65	5.4	29
60	The inhibition of factor inhibiting hypoxia-inducible factor (FIH) by beta-oxocarboxylic acids. *Chemical Communications*, **2005**, 5438-40	5.8	28
59	Substrate selectivity analyses of factor inhibiting hypoxia-inducible factor. *Angewandte Chemie - International Edition*, **2013**, 52, 1700-4	16.4	25
58	Factor inhibiting hypoxia-inducible factor (FIH) and other asparaginyl hydroxylases. *Biochemical Society Transactions*, **2004**, 32, 943-5	5.1	25
57	Pharmacological inhibition of FTO. *PLoS ONE*, **2015**, 10, e0121829	3.7	25
56	Crystallographic analyses of isoquinoline complexes reveal a new mode of metallo-βlactamase inhibition. *Chemical Communications*, **2017**, 53, 5806-5809	5.8	24
55	Studies on the inhibition of AmpC and other βlactamases by cyclic boronates. *Biochimica Et Biophysica Acta - General Subjects*, **2019**, 1863, 742-748	4	24
54	Structure of the ribosomal oxygenase OGFOD1 provides insights into the regio- and stereoselectivity of prolyl hydroxylases. *Structure*, **2015**, 23, 639-52	5.2	24
53	Dynamic Combinatorial Chemistry Employing Boronic Acids/Boronate Esters Leads to Potent Oxygenase Inhibitors. *Angewandte Chemie*, **2012**, 124, 6776-6779	3.6	24
52	CHAPTER 2:Introduction to Structural Studies on 2-Oxoglutarate-Dependent Oxygenases and Related Enzymes. *2-Oxoglutarate-Dependent Oxygenases*, **2015**, 59-94	1.8	24

51	Crystal structures of VIM-1 complexes explain active site heterogeneity in VIM-class metallo-β-lactamases. *FEBS Journal*, **2019**, 286, 169-183	5.7	21
50	Aspartate/asparagine-β-hydroxylase crystal structures reveal an unexpected epidermal growth factor-like domain substrate disulfide pattern. *Nature Communications*, **2019**, 10, 4910	17.4	19
49	Modulating carnitine levels by targeting its biosynthesis pathway - selective inhibition of γ-butyrobetaine hydroxylase. *Chemical Science*, **2014**, 5, 1765-1771	9.4	19
48	Structure of arylamine N-acetyltransferase from Mycobacterium tuberculosis determined by cross-seeding with the homologous protein from M. marinum: triumph over adversity. *Acta Crystallographica Section D: Biological Crystallography*, **2013**, 69, 1433-46		19
47	Cation-π Interactions Contribute to Substrate Recognition in γ-Butyrobetaine Hydroxylase Catalysis. *Chemistry - A European Journal*, **2016**, 22, 1270-6	4.8	19
46	Binding of (5S)-penicilloic acid to penicillin binding protein 3. *ACS Chemical Biology*, **2013**, 8, 2112-6	4.9	18
45	Structural basis for binding of cyclic 2-oxoglutarate analogues to factor-inhibiting hypoxia-inducible factor. *Bioorganic and Medicinal Chemistry Letters*, **2010**, 20, 6125-8	2.9	18
44	Rh(III)-Catalyzed directed C–H carbenoid coupling reveals aromatic bisphosphonates inhibiting metallo- and Serine-β-lactamases. *Organic Chemistry Frontiers*, **2018**, 5, 1288-1292	5.2	17
43	The methyltransferase METTL9 mediates pervasive 1-methylhistidine modification in mammalian proteomes. *Nature Communications*, **2021**, 12, 891	17.4	17
42	Structure activity relationship studies on rhodanines and derived enethiol inhibitors of metallo-β-lactamases. *Bioorganic and Medicinal Chemistry*, **2018**, 26, 2928-2936	3.4	16
41	New structural insights into the inhibition of serine proteases by cyclic peptides from bacteria. *Chemistry and Biology*, **2003**, 10, 898-900		16
40	Self-hydroxylation of the splicing factor lysyl hydroxylase, JMJD6. *MedChemComm*, **2012**, 3, 80-85	5	15
39	Structural and mechanistic studies on the peroxisomal oxygenase phytanoyl-CoA 2-hydroxylase (PhyH). *Biochemical Society Transactions*, **2007**, 35, 870-5	5.1	15
38	Structures of oxygen-sensing plant cysteine oxidases 4 and 5 enable targeted manipulation of their activity. *Proceedings of the National Academy of Sciences of the United States of America*, **2020**, 117, 23140-23147	11.5	14
37	Biochemical and structural investigations clarify the substrate selectivity of the 2-oxoglutarate oxygenase JMJD6. *Journal of Biological Chemistry*, **2019**, 294, 11637-11652	5.4	13
36	Use of ferrous iron by metallo-β-lactamases. *Journal of Inorganic Biochemistry*, **2016**, 163, 185-193	4.2	13
35	Comparison of the substrate selectivity and biochemical properties of human and bacterial γ-butyrobetaine hydroxylase. *Organic and Biomolecular Chemistry*, **2014**, 12, 6354-8	3.9	13
34	Crystal structure of PHYHD1A, a 2OG oxygenase related to phytanoyl-CoA hydroxylase. *Biochemical and Biophysical Research Communications*, **2011**, 408, 553-8	3.4	13

33	C-Carbamylation as a mechanistic probe for the inhibition of class D β-lactamases by avibactam and halide ions. *Organic and Biomolecular Chemistry*, **2017**, 15, 6024-6032	3.9	12
32	An unusual mode of iron-sulfur-cluster coordination in a teleost glutaredoxin. *Biochemical and Biophysical Research Communications*, **2013**, 436, 491-6	3.4	12
31	Crystallographic and mass spectrometric analyses of a tandem GNAT protein from the clavulanic acid biosynthesis pathway. *Proteins: Structure, Function and Bioinformatics*, **2010**, 78, 1398-407	4.2	12
30	Structure-Activity Relationship and Crystallographic Studies on 4-Hydroxypyrimidine HIF Prolyl Hydroxylase Domain Inhibitors. *ChemMedChem*, **2020**, 15, 270-273	3.7	12
29	Oxygenase-catalyzed desymmetrization of N,N-dialkyl-piperidine-4-carboxylic acids. *Angewandte Chemie - International Edition*, **2014**, 53, 10925-7	16.4	11
28	Broad Spectrum β-Lactamase Inhibition by a Thioether Substituted Bicyclic Boronate. *ACS Infectious Diseases*, **2020**, 6, 1398-1404	5.5	10
27	Aspartate/asparagine-β-hydroxylase: a high-throughput mass spectrometric assay for discovery of small molecule inhibitors. *Scientific Reports*, **2020**, 10, 8650	4.9	9
26	Biosynthesis of histone messenger RNA employs a specific 3' end endonuclease. *ELife*, **2018**, 7,	8.9	9
25	Linking of 2-Oxoglutarate and Substrate Binding Sites Enables Potent and Highly Selective Inhibition of JmjC Histone Demethylases. *Angewandte Chemie*, **2012**, 124, 1663-1666	3.6	8
24	OS-9: another piece in the HIF complex story. *Molecular Cell*, **2005**, 17, 472-3	17.6	8
23	Imitation of β-lactam binding enables broad-spectrum metallo-β-lactamase inhibitors.. *Nature Chemistry*, **2021**,	17.6	8
22	Born to sense: biophysical analyses of the oxygen sensing prolyl hydroxylase from the simplest animal. *Hypoxia (Auckland, N Z)*, **2018**, 6, 57-71	2.1	7
21	To Cross-Seed or Not To Cross-Seed: A Pilot Study Using Metallo-β-lactamases. *Crystal Growth and Design*, **2017**, 17, 913-924	3.5	6
20	Structural and mechanistic studies of the orf12 gene product from the clavulanic acid biosynthesis pathway. *Acta Crystallographica Section D: Biological Crystallography*, **2013**, 69, 1567-79		6
19	Structural Basis of Prolyl Hydroxylase Domain Inhibition by Molidustat. *ChemMedChem*, **2021**, 16, 2082-2088	3.7	6
18	Studies on spiro[4.5]decanone prolyl hydroxylase domain inhibitors. *MedChemComm*, **2019**, 10, 500-504	5	5
17	YcfD is a thermophilic oxygen-dependent ribosomal protein uL16 oxygenase. *Extremophiles*, **2018**, 22, 553-562	3	5
16	Development and application of ligand-based NMR screening assays for γ-butyrobetaine hydroxylase. *MedChemComm*, **2016**, 7, 873-880	5	5

15	Anaerobic fixed-target serial crystallography. *IUCrJ*, **2020**, 7, 901-912	4.7	5
14	Faropenem reacts with serine and metallo-β-lactamases to give multiple products. *European Journal of Medicinal Chemistry*, **2021**, 215, 113257	6.8	5
13	MeLAD: an integrated resource for metalloenzyme-ligand associations. *Bioinformatics*, **2020**, 36, 904-909	7.2	4
12	A human protein hydroxylase that accepts D-residues. *Communications Chemistry*, **2020**, 3,	6.3	4
11	Oxygenase-Catalyzed Desymmetrization of N,N-Dialkyl-piperidine-4-carboxylic Acids. *Angewandte Chemie*, **2014**, 126, 11105-11107	3.6	4
10	Crystallization and preliminary X-ray characterization of a thermostable pectate lyase from Thermotoga maritima. *Acta Crystallographica Section D: Biological Crystallography*, **2002**, 58, 709-11		4
9	X-ray free-electron laser studies reveal correlated motion during isopenicillin synthase catalysis. *Science Advances*, **2021**, 7,	14.3	4
8	Biochemical and biophysical analyses of hypoxia sensing prolyl hydroxylases from and. *Journal of Biological Chemistry*, **2020**, 295, 16545-16561	5.4	3
7	Human Oxygenase Variants Employing a Single Protein Fe Ligand Are Catalytically Active. *Angewandte Chemie - International Edition*, **2021**, 60, 14657-14663	16.4	3
6	Structure-Based Design of Selective Fat Mass and Obesity Associated Protein (FTO) Inhibitors. *Journal of Medicinal Chemistry*, **2021**, 64, 16609-16625	8.3	2
5	A small-molecule probe for monitoring binding to prolyl hydroxylase domain 2 by fluorescence polarisation. *Chemical Communications*, **2020**, 56, 14199-14202	5.8	2
4	Inhibition of the Oxygen-Sensing Asparaginyl Hydroxylase Factor Inhibiting Hypoxia-Inducible Factor: A Potential Hypoxia Response Modulating Strategy. *Journal of Medicinal Chemistry*, **2021**, 64, 7189-7209	8.3	2
3	Inhibition of JMJD6 by 2-Oxoglutarate Mimics. *ChemMedChem*, **2021**, 17, e202100398	3.7	1
2	Substrate Selectivity Analyses of Factor Inhibiting Hypoxia-Inducible Factor. *Angewandte Chemie*, **2013**, 125, 1744-1748	3.6	0
1	Human Oxygenase Variants Employing a Single Protein FeII Ligand Are Catalytically Active. *Angewandte Chemie*, **2021**, 133, 14778-14784	3.6	