Tohru Minamino

List of Publications by Citations

140 papers	6,613 citations	50 h-index	77 g-index
149 ext. papers	7,749 ext. citations	5.9 avg, IF	6.19 L-index

#	Paper	IF	Citations
140	Components of the Salmonella flagellar export apparatus and classification of export substrates. *Journal of Bacteriology*, **1999**, 181, 1388-94	3.5	286
139	Distinct roles of the FliI ATPase and proton motive force in bacterial flagellar protein export. *Nature*, **2008**, 451, 485-8	50.4	221
138	Interactions among components of the Salmonella flagellar export apparatus and its substrates. *Molecular Microbiology*, **2000**, 35, 1052-64	4.1	183
137	Molecular motors of the bacterial flagella. *Current Opinion in Structural Biology*, **2008**, 18, 693-701	8.1	160
136	The bacterial flagellar motor and its structural diversity. *Trends in Microbiology*, **2015**, 23, 267-74	12.4	149
135	Mechanisms of type III protein export for bacterial flagellar assembly. *Molecular BioSystems*, **2008**, 4, 1105-15		149
134	Domain structure of Salmonella FlhB, a flagellar export component responsible for substrate specificity switching. *Journal of Bacteriology*, **2000**, 182, 4906-14	3.5	146
133	FliH, a soluble component of the type III flagellar export apparatus of Salmonella, forms a complex with FliI and inhibits its ATPase activity. *Molecular Microbiology*, **2000**, 37, 1494-503	4.1	140
132	Common architecture of the flagellar type III protein export apparatus and F- and V-type ATPases. *Nature Structural and Molecular Biology*, **2011**, 18, 277-82	17.6	133
131	Peptidoglycan-hydrolyzing activity of the FlgJ protein, essential for flagellar rod formation in Salmonella typhimurium. *Journal of Bacteriology*, **1999**, 181, 1555-61	3.5	130
130	Stator assembly and activation mechanism of the flagellar motor by the periplasmic region of MotB. *Molecular Microbiology*, **2009**, 73, 710-8	4.1	128
129	FliK, the protein responsible for flagellar hook length control in Salmonella, is exported during hook assembly. *Molecular Microbiology*, **1999**, 34, 295-304	4.1	127
128	Structural similarity between the flagellar type III ATPase FliI and F1-ATPase subunits. *Proceedings of the National Academy of Sciences of the United States of America*, **2007**, 104, 485-90	11.5	126
127	Self-assembly and type III protein export of the bacterial flagellum. *Journal of Molecular Microbiology and Biotechnology*, **2004**, 7, 5-17	0.9	119
126	Flagella-Driven Motility of Bacteria. *Biomolecules*, **2019**, 9,	5.9	114
125	FlhB regulates ordered export of flagellar components via autocleavage mechanism. *Journal of Biological Chemistry*, **2005**, 280, 41236-42	5.4	114
124	An energy transduction mechanism used in bacterial flagellar type III protein export. *Nature Communications*, **2011**, 2, 475	17.4	113

123	Common and distinct structural features of Salmonella injectisome and flagellar basal body. *Scientific Reports*, **2013**, 3, 3369	4.9	109
122	Variation in bacterial flagellins: from sequence to structure. *Trends in Microbiology*, **2006**, 14, 151-5	12.4	106
121	Protein export through the bacterial flagellar type III export pathway. *Biochimica Et Biophysica Acta - Molecular Cell Research*, **2014**, 1843, 1642-8	4.9	105
120	Interactions between C ring proteins and export apparatus components: a possible mechanism for facilitating type III protein export. *Molecular Microbiology*, **2006**, 60, 984-98	4.1	92
119	The type III flagellar export specificity switch is dependent on FliK ruler and a molecular clock. *Journal of Molecular Biology*, **2006**, 359, 466-77	6.5	90
118	Structure and function of the bi-directional bacterial flagellar motor. *Biomolecules*, **2014**, 4, 217-34	5.9	88
117	Effect of intracellular pH on rotational speed of bacterial flagellar motors. *Journal of Bacteriology*, **2003**, 185, 1190-4	3.5	85
116	Charged residues in the cytoplasmic loop of MotA are required for stator assembly into the bacterial flagellar motor. *Molecular Microbiology*, **2010**, 78, 1117-29	4.1	84
115	Role of FliJ in flagellar protein export in Salmonella. *Journal of Bacteriology*, **2000**, 182, 4207-15	3.5	81
114	Molecular dissection of Salmonella FliH, a regulator of the ATPase FliI and the type III flagellar protein export pathway. *Molecular Microbiology*, **2002**, 45, 967-82	4.1	78
113	Intergenic suppression between the flagellar MS ring protein FliF of Salmonella and FlhA, a membrane component of its export apparatus. *Journal of Bacteriology*, **2001**, 183, 1655-62	3.5	75
112	Structural insight into the rotational switching mechanism of the bacterial flagellar motor. *PLoS Biology*, **2011**, 9, e1000616	9.7	73
111	Flipping the switch: bringing order to flagellar assembly. *Trends in Microbiology*, **2006**, 14, 519-26	12.4	73
110	The ATPase FliI can interact with the type III flagellar protein export apparatus in the absence of its regulator, FliH. *Journal of Bacteriology*, **2003**, 185, 3983-8	3.5	72
109	Assembly and stoichiometry of FliF and FlhA in Salmonella flagellar basal body. *Molecular Microbiology*, **2014**, 91, 1214-26	4.1	68
108	Distinct roles of highly conserved charged residues at the MotA-FliG interface in bacterial flagellar motor rotation. *Journal of Bacteriology*, **2013**, 195, 474-81	3.5	67
107	Domain organization and function of Salmonella FliK, a flagellar hook-length control protein. *Journal of Molecular Biology*, **2004**, 341, 491-502	6.5	67
106	Interactions of bacterial flagellar chaperone-substrate complexes with FlhA contribute to co-ordinating assembly of the flagellar filament. *Molecular Microbiology*, **2013**, 90, 1249-61	4.1	65

105	Structure of the cytoplasmic domain of FlhA and implication for flagellar type III protein export. *Molecular Microbiology*, **2010**, 76, 260-8	4.1	65
104	Substrate specificity classes and the recognition signal for Salmonella type III flagellar export. *Journal of Bacteriology*, **2003**, 185, 2485-92	3.5	65
103	Genetic characterization of conserved charged residues in the bacterial flagellar type III export protein FlhA. *PLoS ONE*, **2011**, 6, e22417	3.7	64
102	Tree of motility - A proposed history of motility systems in the tree of life. *Genes To Cells*, **2020**, 25, 6-21	2.3	62
101	Structural insight into the regulatory mechanisms of interactions of the flagellar type III chaperone FliT with its binding partners. *Proceedings of the National Academy of Sciences of the United States of America*, **2010**, 107, 8812-7	11.5	61
100	Roles of the extreme N-terminal region of FliH for efficient localization of the FliH-FliI complex to the bacterial flagellar type III export apparatus. *Molecular Microbiology*, **2009**, 74, 1471-83	4.1	61
99	Proton-conductivity assay of plugged and unplugged MotA/B proton channel by cytoplasmic pHluorin expressed in Salmonella. *FEBS Letters*, **2010**, 584, 1268-72	3.8	61
98	Interaction between FliE and FlgB, a proximal rod component of the flagellar basal body of Salmonella. *Journal of Bacteriology*, **2000**, 182, 3029-36	3.5	59
97	Structural and functional analysis of the C-terminal cytoplasmic domain of FlhA, an integral membrane component of the type III flagellar protein export apparatus in Salmonella. *Journal of Molecular Biology*, **2004**, 343, 457-66	6.5	57
96	Interaction of a bacterial flagellar chaperone FlgN with FlhA is required for efficient export of its cognate substrates. *Molecular Microbiology*, **2012**, 83, 775-88	4.1	56
95	Assembly dynamics and the roles of FliI ATPase of the bacterial flagellar export apparatus. *Scientific Reports*, **2014**, 4, 6528	4.9	55
94	The bacterial flagellar protein export apparatus processively transports flagellar proteins even with extremely infrequent ATP hydrolysis. *Scientific Reports*, **2014**, 4, 7579	4.9	55
93	The Bacterial Flagellar Type III Export Gate Complex Is a Dual Fuel Engine That Can Use Both H+ and Na+ for Flagellar Protein Export. *PLoS Pathogens*, **2016**, 12, e1005495	7.6	55
92	Two parts of the T3S4 domain of the hook-length control protein FliK are essential for the substrate specificity switching of the flagellar type III export apparatus. *Journal of Molecular Biology*, **2006**, 362, 1148-58	6.5	54
91	Effect of intracellular pH on the torque-speed relationship of bacterial proton-driven flagellar motor. *Journal of Molecular Biology*, **2009**, 386, 332-8	6.5	50
90	Assembly and stoichiometry of the core structure of the bacterial flagellar type III export gate complex. *PLoS Biology*, **2017**, 15, e2002281	9.7	49
89	Evidence for symmetry in the elementary process of bidirectional torque generation by the bacterial flagellar motor. *Proceedings of the National Academy of Sciences of the United States of America*, **2010**, 107, 17616-20	11.5	48
88	Oligomerization of the bacterial flagellar ATPase FliI is controlled by its extreme N-terminal region. *Journal of Molecular Biology*, **2006**, 360, 510-9	6.5	48

87	Identical folds used for distinct mechanical functions of the bacterial flagellar rod and hook. *Nature Communications*, **2017**, 8, 14276	17.4	47
86	Role of the C-terminal cytoplasmic domain of FlhA in bacterial flagellar type III protein export. *Journal of Bacteriology*, **2010**, 192, 1929-36	3.5	47
85	Suppressor analysis of the MotB(D33E) mutation to probe bacterial flagellar motor dynamics coupled with proton translocation. *Journal of Bacteriology*, **2008**, 190, 6660-7	3.5	47
84	Interaction of the extreme N-terminal region of FliH with FlhA is required for efficient bacterial flagellar protein export. *Journal of Bacteriology*, **2012**, 194, 5353-60	3.5	46
83	Bacterial flagella grow through an injection-diffusion mechanism. *ELife*, **2017**, 6,	8.9	45
82	Load-sensitive coupling of proton translocation and torque generation in the bacterial flagellar motor. *Molecular Microbiology*, **2014**, 91, 175-84	4.1	43
81	Substrate specificity switching of the flagellum-specific export apparatus during flagellar morphogenesis in Salmonella typhimurium. *Bioscience, Biotechnology and Biochemistry*, **1999**, 63, 1301-3	2.1	43
80	Interaction between FliI ATPase and a flagellar chaperone FliT during bacterial flagellar protein export. *Molecular Microbiology*, **2012**, 83, 168-78	4.1	42
79	Interaction between FliJ and FlhA, components of the bacterial flagellar type III export apparatus. *Journal of Bacteriology*, **2013**, 195, 466-73	3.5	41
78	Interaction of FliK with the bacterial flagellar hook is required for efficient export specificity switching. *Molecular Microbiology*, **2009**, 74, 239-251	4.1	41
77	Insight into the flagella type III export revealed by the complex structure of the type III ATPase and its regulator. *Proceedings of the National Academy of Sciences of the United States of America*, **2016**, 113, 3633-8	11.5	39
76	Insight into structural remodeling of the FlhA ring responsible for bacterial flagellar type III protein export. *Science Advances*, **2018**, 4, eaao7054	14.3	37
75	Characterization of the periplasmic domain of MotB and implications for its role in the stator assembly of the bacterial flagellar motor. *Journal of Bacteriology*, **2008**, 190, 3314-22	3.5	36
74	Na-induced structural transition of MotPS for stator assembly of the flagellar motor. *Science Advances*, **2017**, 3, eaao4119	14.3	35
73	Flagellin redundancy in Caulobacter crescentus and its implications for flagellar filament assembly. *Journal of Bacteriology*, **2011**, 193, 2695-707	3.5	35
72	Proteolytic analysis of the FliH/FliI complex, the ATPase component of the type III flagellar export apparatus of Salmonella. *Journal of Molecular Biology*, **2001**, 312, 1027-36	6.5	35
71	Measure for measure in the control of type III secretion hook and needle length. *Molecular Microbiology*, **2005**, 56, 303-8	4.1	33
70	Tunnel Formation Inferred from the I-Form Structures of the Proton-Driven Protein Secretion Motor SecDF. *Cell Reports*, **2017**, 19, 895-901	10.6	32

69	ATP-induced FliI hexamerization facilitates bacterial flagellar protein export. *Biochemical and Biophysical Research Communications*, **2009**, 388, 323-7	3.4	32
68	M153R mutation in a pH-sensitive green fluorescent protein stabilizes its fusion proteins. *PLoS ONE* , **2011**, 6, e19598	3.7	31
67	High-Resolution pH Imaging of Living Bacterial Cells To Detect Local pH Differences. *MBio*, **2016**, 7,	7.8	31
66	Structural differences in the bacterial flagellar motor among bacterial species. *Biophysics and Physicobiology*, **2017**, 14, 191-198	1.4	30
65	Role of EscP (Orf16) in injectisome biogenesis and regulation of type III protein secretion in enteropathogenic Escherichia coli. *Journal of Bacteriology*, **2012**, 194, 6029-45	3.5	29
64	The C-terminal periplasmic domain of MotB is responsible for load-dependent control of the number of stators of the bacterial flagellar motor. *Biophysics (Nagoya-shi, Japan)*, **2013**, 9, 173-81		28
63	Autonomous control mechanism of stator assembly in the bacterial flagellar motor in response to changes in the environment. *Molecular Microbiology*, **2018**, 109, 723-734	4.1	27
62	Load- and polysaccharide-dependent activation of the Na-type MotPS stator in the Bacillus subtilis flagellar motor. *Scientific Reports*, **2017**, 7, 46081	4.9	26
61	FliH and FliI ensure efficient energy coupling of flagellar type III protein export in Salmonella. *MicrobiologyOpen*, **2016**, 5, 424-35	3.4	26
60	Hierarchical protein export mechanism of the bacterial flagellar type III protein export apparatus. *FEMS Microbiology Letters*, **2018**, 365,	2.9	25
59	Structural properties of FliH, an ATPase regulatory component of the Salmonella type III flagellar export apparatus. *Journal of Molecular Biology*, **2002**, 322, 281-90	6.5	24
58	Directional Switching Mechanism of the Bacterial Flagellar Motor. *Computational and Structural Biotechnology Journal*, **2019**, 17, 1075-1081	6.8	23
57	Structural Insights into the Substrate Specificity Switch Mechanism of the Type III Protein Export Apparatus. *Structure*, **2019**, 27, 965-976.e6	5.2	23
56	Reconstitution of Functional Type III Protein Export and Insights into Flagellar Assembly. *MBio*, **2018**, 9,	7.8	23
55	Coupling between switching regulation and torque generation in bacterial flagellar motor. *Physical Review Letters*, **2012**, 108, 178105	7.4	22
54	Structural stability of flagellin subunit affects the rate of flagellin export in the absence of FliS chaperone. *Molecular Microbiology*, **2016**, 102, 405-416	4.1	21
53	Novel insights into the mechanism of well-ordered assembly of bacterial flagellar proteins in Salmonella. *Scientific Reports*, **2018**, 8, 1787	4.9	20
52	Straight and rigid flagellar hook made by insertion of the FlgG specific sequence into FlgE. *Scientific Reports*, **2017**, 7, 46723	4.9	19

51	Role of a conserved prolyl residue (Pro173) of MotA in the mechanochemical reaction cycle of the proton-driven flagellar motor of Salmonella. *Journal of Molecular Biology*, **2009**, 393, 300-7	6.5	19
50	The role of intrinsically disordered C-terminal region of FliK in substrate specificity switching of the bacterial flagellar type III export apparatus. *Molecular Microbiology*, **2017**, 105, 572-588	4.1	18
49	The role of a cytoplasmic loop of MotA in load-dependent assembly and disassembly dynamics of the MotA/B stator complex in the bacterial flagellar motor. *Molecular Microbiology*, **2017**, 106, 646-658	4.1	18
48	Na+ conductivity of the Na+-driven flagellar motor complex composed of unplugged wild-type or mutant PomB with PomA. *Journal of Biochemistry*, **2013**, 153, 441-51	3.1	18
47	Fuel of the Bacterial Flagellar Type III Protein Export Apparatus. *Methods in Molecular Biology*, **2017**, 1593, 3-16	1.4	16
46	Genetic analysis of the bacterial hook-capping protein FlgD responsible for hook assembly. *Microbiology (United Kingdom)*, **2011**, 157, 1354-1362	2.9	16
45	Rearrangements of α-helical structures of FlgN chaperone control the binding affinity for its cognate substrates during flagellar type III export. *Molecular Microbiology*, **2016**, 101, 656-70	4.1	16
44	Role of the N-terminal domain of FliI ATPase in bacterial flagellar protein export. *FEBS Letters*, **2009**, 583, 743-8	3.8	15
43	Novel Insights into Conformational Rearrangements of the Bacterial Flagellar Switch Complex. *MBio*, **2019**, 10,	7.8	15
42	Molecular Organization and Assembly of the Export Apparatus of Flagellar Type III Secretion Systems. *Current Topics in Microbiology and Immunology*, **2020**, 427, 91-107	3.3	14
41	Isolation of Salmonella mutants resistant to the inhibitory effect of Salicylidene acylhydrazides on flagella-mediated motility. *PLoS ONE*, **2013**, 8, e52179	3.7	13
40	Weak Interactions between Salmonella enterica FlhB and Other Flagellar Export Apparatus Proteins Govern Type III Secretion Dynamics. *PLoS ONE*, **2015**, 10, e0134884	3.7	13
39	Structural and Functional Comparison of Flagellar Filaments Composed of FljB and FliC. *Biomolecules*, **2020**, 10,	5.9	12
38	A triangular loop of domain D1 of FlgE is essential for hook assembly but not for the mechanical function. *Biochemical and Biophysical Research Communications*, **2018**, 495, 1789-1794	3.4	12
37	Insight into adaptive remodeling of the rotor ring complex of the bacterial flagellar motor. *Biochemical and Biophysical Research Communications*, **2018**, 496, 12-17	3.4	12
36	Native flagellar MS ring is formed by 34 subunits with 23-fold and 11-fold subsymmetries. *Nature Communications*, **2021**, 12, 4223	17.4	12
35	Role of the Dc domain of the bacterial hook protein FlgE in hook assembly and function. *Biophysics (Nagoya-shi, Japan)*, **2013**, 9, 63-72		11
34	Structure of the molecular bushing of the bacterial flagellar motor. *Nature Communications*, **2021**, 12, 4469	17.4	10

33	Effect of a clockwise-locked deletion in FliG on the FliG ring structure of the bacterial flagellar motor. *Genes To Cells*, **2018**, 23, 241-247	2.3	9
32	FliK-Driven Conformational Rearrangements of FlhA and FlhB Are Required for Export Switching of the Flagellar Protein Export Apparatus. *Journal of Bacteriology*, **2020**, 202,	3.5	9
31	Direct observation of speed fluctuations of flagellar motor rotation at extremely low load close to zero. *Molecular Microbiology*, **2020**, 113, 755-765	4.1	9
30	Two Distinct Conformations in 34 FliF Subunits Generate Three Different Symmetries within the Flagellar MS-Ring. *MBio*, **2021**, 12,	7.8	8
29	Functional defect and restoration of temperature-sensitive mutants of FlhA, a subunit of the flagellar protein export apparatus. *Journal of Molecular Biology*, **2012**, 415, 855-65	6.5	7
28	Crystallization and preliminary X-ray analysis of FliJ, a cytoplasmic component of the flagellar type III protein-export apparatus from Salmonella sp. *Acta Crystallographica Section F: Structural Biology Communications*, **2009**, 65, 47-50		7
27	Mutational analysis of the C-terminal cytoplasmic domain of FlhB, a transmembrane component of the flagellar type III protein export apparatus in Salmonella. *Genes To Cells*, **2019**, 24, 408-421	2.3	6
26	Dynamic exchange of two types of stator units in flagellar motor in response to environmental changes. *Computational and Structural Biotechnology Journal*, **2020**, 18, 2897-2907	6.8	5
25	The flexible linker of the secreted FliK ruler is required for export switching of the flagellar protein export apparatus. *Scientific Reports*, **2020**, 10, 838	4.9	5
24	Measurements of Free-swimming Speed of Motile Cells in Liquid Media. *Bio-protocol*, **2017**, 7, e2093	0.9	5
23	The FlgN chaperone activates the Na-driven engine of the Salmonella flagellar protein export apparatus. *Communications Biology*, **2021**, 4, 335	6.7	5
22	In Vitro Autonomous Construction of the Flagellar Axial Structure in Inverted Membrane Vesicles. *Biomolecules*, **2020**, 10,	5.9	4
21	Purification, crystallization and preliminary X-ray analysis of FliT, a bacterial flagellar substrate-specific export chaperone. *Acta Crystallographica Section F: Structural Biology Communications*, **2009**, 65, 825-8		4
20	Architecture and Assembly of the Bacterial Flagellar Motor Complex. *Sub-Cellular Biochemistry*, **2021**, 96, 297-321	5.5	4
19	Native structure of flagellar MS ring is formed by 34 subunits with 23-fold and 11-fold subsymmetries		4
18	A positive charge region of Salmonella FliI is required for ATPase formation and efficient flagellar protein export. *Communications Biology*, **2021**, 4, 464	6.7	4
17	Functional divergence of flagellar type III secretion system: A case study in a non-flagellated, predatory bacterium. *Computational and Structural Biotechnology Journal*, **2020**, 18, 3368-3376	6.8	3
16	Crystallization and preliminary X-ray analysis of the periplasmic domain of FliP, an integral membrane component of the bacterial flagellar type III protein-export apparatus. *Acta Crystallographica Section F, Structural Biology Communications*, **2014**, 70, 1215-8	1.1	3

List of Publications

15	Crystallization and preliminary X-ray analysis of Salmonella FliI, the ATPase component of the type III flagellar protein-export apparatus. *Acta Crystallographica Section F: Structural Biology Communications*, **2006**, 62, 973-5		3
14	Effect of the MotB(D33N) mutation on stator assembly and rotation of the proton-driven bacterial flagellar motor. *Biophysics (Nagoya-shi, Japan)*, **2014**, 10, 35-41		3
13	Bacterial Intracellular Sodium Ion Measurement using CoroNa Green. *Bio-protocol*, **2017**, 7, e2092	0.9	3
12	Membrane voltage-dependent activation mechanism of the bacterial flagellar protein export apparatus. *Proceedings of the National Academy of Sciences of the United States of America*, **2021**, 118,	11.5	3
11	The FlhA linker mediates flagellar protein export switching during flagellar assembly. *Communications Biology*, **2021**, 4, 646	6.7	3
10	Stoichiometry and Turnover of the Stator and Rotor. *Methods in Molecular Biology*, **2017**, 1593, 203-213	1.4	2
9	Crystallization and preliminary X-ray analysis of the FliH-FliI complex responsible for bacterial flagellar type III protein export. *Acta Crystallographica Section F: Structural Biology Communications*, **2012**, 68, 1311-4		2
8	Structure of the molecular bushing of the bacterial flagellar motor		2
7	Multiple Roles of Flagellar Export Chaperones for Efficient and Robust Flagellar Filament Formation in. *Frontiers in Microbiology*, **2021**, 12, 756044	5.7	2
6	GFP Fusion to the N-Terminus of MotB Affects the Proton Channel Activity of the Bacterial Flagellar Motor in. *Biomolecules*, **2020**, 10,	5.9	2
5	Salmonella Flagellum **2018**,		1
4	Genetic Analysis of the Salmonella FliE Protein That Forms the Base of the Flagellar Axial Structure. *MBio*, **2021**, 12, e0239221	7.8	0
3	Determination of Local pH Differences within Single Bacterial Cell. *Seibutsu Butsuri*, **2017**, 57, 296-298	0	
2	. *Kagaku To Seibutsu*, **2011**, 49, 22-31	0	
1	Determination of Local pH Differences within Living Cells by High-resolution pH Imaging Based on pH-sensitive GFP Derivative, pHluorin(M153R). *Bio-protocol*, **2017**, 7, e2529	0.9	