Wakako Tsugawa

List of Publications by Year
in descending order

101 papers	2,161 citations	186265 28 h-index	289244 40 g-index
102 all docs	102 docs citations	102 times ranked	1416 citing authors

#	Article	IF	Citations
1	A novel wireless glucose sensor employing direct electron transfer principle based enzyme fuel cell. Biosensors and Bioelectronics, 2007, 22, 2250-2255.	10.1	103
2	BioCapacitor: A novel principle for biosensors. Biosensors and Bioelectronics, 2016, 76, 20-28.	10.1	80
3	BioCapacitorâ€"A novel category of biosensor. Biosensors and Bioelectronics, 2009, 24, 1837-1842.	10.1	71
4	Development of a third-generation glucose sensor based on the open circuit potential for continuous glucose monitoring. Biosensors and Bioelectronics, 2019, 124-125, 216-223.	10.1	68
5	Wireless enzyme sensor system for real-time monitoring of blood glucose levels in fish. Biosensors and Bioelectronics, 2009, 24, 1417-1423.	10.1	59
6	A novel thermostable glucose dehydrogenase varying temperature properties by altering its quaternary structures. Enzyme and Microbial Technology, 1996, 19, 82-85.	3.2	55
7	BioRadioTransmitter: A Self-Powered Wireless Glucose-Sensing System. Journal of Diabetes Science and Technology, 2011, 5, 1030-1035.	2.2	52
8	Review of Fructosyl Amino Acid Oxidase Engineering Research: A Glimpse into the Future of Hemoglobin A1c Biosensing. Journal of Diabetes Science and Technology, 2009, 3, 585-592.	2.2	51
9	Development of a flow-injection analysis (FIA) enzyme sensor for fructosyl amine monitoring. Analytical and Bioanalytical Chemistry, 2002, 373, 211-214.	3.7	50
10	Development of a glucose sensor employing quick and easy modification method with mediator for altering electron acceptor preference. Bioelectrochemistry, 2018, 121, 185-190.	4.6	47
11	Novel fungal FAD glucose dehydrogenase derived from Aspergillus niger for glucose enzyme sensor strips. Biosensors and Bioelectronics, 2017, 87, 305-311.	10.1	46
12	Engineered Glucose Oxidase Capable of Quasi-Direct Electron Transfer after a Quick-and-Easy Modification with a Mediator. International Journal of Molecular Sciences, 2020, 21, 1137.	4.1	46
13	Rational engineering of Aerococcus viridans l-lactate oxidase for the mediator modification to achieve quasi-direct electron transfer type lactate sensor. Biosensors and Bioelectronics, 2020, 151, 111974.	10.1	43
14	Engineering glucose oxidase to minimize the influence of oxygen on sensor response. Electrochimica Acta, 2014, 126, 158-161.	5.2	41
15	Rational design of direct electron transfer type l-lactate dehydrogenase for the development of multiplexed biosensor. Biosensors and Bioelectronics, 2021, 176, 112933.	10.1	40
16	The electrochemical behavior of a FAD dependent glucose dehydrogenase with direct electron transfer subunit by immobilization on self-assembled monolayers. Bioelectrochemistry, 2018, 121, 1-6.	4.6	39
17	Designer fungus FAD glucose dehydrogenase capable of direct electron transfer. Biosensors and Bioelectronics, 2019, 123, 114-123.	10.1	39
18	Development of an Enzyme Sensor Utilizing a Novel Fructosyl Amine Oxidase from a Marine Yeast. Electrochemistry, 2000, 68, 869-871.	1.4	37

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19	Third generation impedimetric sensor employing direct electron transfer type glucose dehydrogenase. Biosensors and Bioelectronics, 2019, 129, 189-197.	10.1	36
20	Screening and Characterization of Fructosyl-Valine-Utilizing Marine Microorganisms. Marine Biotechnology, 2001, 3, 126-132.	2.4	35
21	A new concept for the construction of an artificial dehydrogenase for fructosylamine compounds and its application for an amperometric fructosylamine sensor. Analytica Chimica Acta, 2001, 435, 151-156.	5.4	35
22	Construction of Mutant Glucose Oxidases with Increased Dye-Mediated Dehydrogenase Activity. International Journal of Molecular Sciences, 2012, 13, 14149-14157.	4.1	34
23	Construction of engineered fructosyl peptidyl oxidase for enzyme sensor applications under normal atmospheric conditions. Biotechnology Letters, 2012, 34, 491-497.	2.2	31
24	An Feâ€"S cluster in the conserved Cys-rich region in the catalytic subunit of FAD-dependent dehydrogenase complexes. Bioelectrochemistry, 2016, 112, 178-183.	4.6	31
25	Development of fructosyl amine oxidase specific to fructosyl valine by site-directed mutagenesis. Protein Engineering, Design and Selection, 2008, 21, 233-239.	2.1	30
26	Development of a screen-printed carbon electrode based disposable enzyme sensor strip for the measurement of glycated albumin. Biosensors and Bioelectronics, 2017, 88, 167-173.	10.1	30
27	Subunit Analyses of a Novel Thermostable Glucose Dehydrogenase Showing Different Temperature Properties According to Its Quaternary Structure. Applied Biochemistry and Biotechnology, 1999, 77, 325-336.	2.9	29
28	Mediator Preference of Two Different FAD-Dependent Glucose Dehydrogenases Employed in Disposable Enzyme Glucose Sensors. Sensors, 2017, 17, 2636.	3.8	29
29	Minimizing the effects of oxygen interference on l -lactate sensors by a single amino acid mutation in Aerococcus viridans l -lactate oxidase. Biosensors and Bioelectronics, 2018, 103, 163-170.	10.1	29
30	Affinity sensor for haemoglobin A1c based on single-walled carbon nanotube field-effect transistor and fructosyl amino acid binding protein. Biosensors and Bioelectronics, 2019, 129, 254-259.	10.1	29
31	Active site analysis of fructosyl amine oxidase using homology modeling and site-directed mutagenesis. Biotechnology Letters, 2006, 28, 1895-1900.	2.2	28
32	Biodegradation of Formaldehyde by a Formaldehyde-Resistant Bacterium Isolated from Seawater. Applied Biochemistry and Biotechnology, 2001, 91-93, 213-218.	2.9	27
33	Isolation and characterization of a fructosyl-amine oxidase from an Arthrobacter sp.. Biotechnology Letters, 2005, 27, 27-32.	2.2	27
34	Purification of a marine bacterial glucose dehydrogenase fromCytophaga marinoflava and its application for measurement of 1,5-anhydro-d-glucitol. Applied Biochemistry and Biotechnology, 1996, 56, 301-310.	2.9	26
35	Engineering of dye-mediated dehydrogenase property of fructosyl amino acid oxidases by site-directed mutagenesis studies of its putative proton relay system. Biotechnology Letters, 2010, 32, 1123-1129.	2.2	26
36	Increased thermal stability of glucose dehydrogenase by cross-linking chemical modification. Biotechnology Letters, 1999, 21, 199-202.	2.2	25

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37	Cumulative effect of amino acid substitution for the development of fructosyl valine-specific fructosyl amine oxidase. Enzyme and Microbial Technology, 2009, 44, 52-56.	3.2	23
38	The development of an autonomous self-powered bio-sensing actuator. Sensors and Actuators B: Chemical, 2014, 196, 429-433.	7.8	23
39	Convenient and Universal Fabrication Method for Antibodyâ€“Enzyme Complexes as Sensing Elements Using the SpyCatcher/SpyTag System. Analytical Chemistry, 2018, 90, 14500-14506.	6.5	22
40	Fructosyl Amine Sensing Based on Prussian Blue Modified Enzyme Electrode. Electrochemistry, 2001, 69, 973-975.	1.4	22
41	Continuous operation of an ultra-low-power microcontroller using glucose as the sole energy source. Biosensors and Bioelectronics, 2017, 93, 335-339.	10.1	21
42	The construction of a glucose-sensing luciferase. Biosensors and Bioelectronics, 2009, 25, 76-81.	10.1	20
43	Fluorescent measurement of 1,5-anhydro-d-glucitol based on a novel marine bacterial glucose dehydrogenase. Enzyme and Microbial Technology, 1998, 22, 269-274.	3.2	19
44	G-Quadruplex Structure Improves the Immunostimulatory Effects of CpG Oligonucleotides. Nucleic Acid Therapeutics, 2019, 29, 224-229.	3.6	19
45	Development of Highly-sensitive Fructosyl-valine Enzyme Sensor Employing Recombinant Fructosyl Amine Oxidase. Electrochemistry, 2003, 71, 442-445.	1.4	19
46	BioLC-Oscillator: A Self-Powered Wireless Glucose-Sensing System with the Glucose Dependent Resonance Frequency. Electrochemistry, 2012, 80, 367-370.	1.4	18
47	Electrochemical sensing system employing fructosamine 6â€kinase enables glycated albumin measurement requiring no proteolytic digestion. Biotechnology Journal, 2016, 11, 797-804.	3.5	18
48	Development of an Interdigitated Electrode-Based Disposable Enzyme Sensor Strip for Glycated Albumin Measurement. Molecules, 2021, 26, 734.	3.8	18
49	Strategic design and improvement of the internal electron transfer of heme b domain-fused glucose dehydrogenase for use in direct electron transfer-type glucose sensors. Biosensors and Bioelectronics, 2021, 176, 112911.	10.1	18
50	X-ray structure of the direct electron transfer-type FAD glucose dehydrogenase catalytic subunit complexed with a hitchhiker protein. Acta Crystallographica Section D: Structural Biology, 2019, 75, 841-851.	2.3	18
51	Novel fluorescent sensing system for Î±-fructosyl amino acids based on engineered fructosyl amino acid binding protein. Biosensors and Bioelectronics, 2007, 22, 1933-1938.	10.1	17
52	Wireless monitoring of blood glucose levels in flatfish with a needle biosensor. Fisheries Science, 2010, 76, 687-694.	1.6	17
53	Engineering Fructosyl Peptide Oxidase to Improve Activity Toward the Fructosyl Hexapeptide Standard for HbA1c Measurement. Molecular Biotechnology, 2013, 54, 939-943.	2.4	17
54	Construction and characterization of flavin adenine dinucleotide glucose dehydrogenase complex harboring a truncated electron transfer subunit. Electrochimica Acta, 2018, 277, 276-286.	5.2	16

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55	Construction and Characterization of Glucose Enzyme Sensor Employing Engineered Water Soluble PQQ Glucose Dehydrogenase with Improved Thermal Stability. Electrochemistry, 2000, 68, 907-911.	1.4	16
56	Cloning and Expression of Fructosyl-amine Oxidase from Marine Yeast Pichia Species N1-1. Marine Biotechnology, 2004, 6, 625-632.	2.4	15
57	Engineered fungus derived FAD-dependent glucose dehydrogenase with acquired ability to utilize hexaammineruthenium(III) as an electron acceptor. Bioelectrochemistry, 2018, 123, 62-69.	4.6	15
58	Enzymatic synthesis of a novel trehalose derivative, 3,3â€²-diketotrehalose, and its potential application as the trehalase enzyme inhibitor. FEBS Letters, 2001, 489, 42-45.	2.8	14
59	Motifâ€based search for a novel fructosyl peptide oxidase from genome databases. Biotechnology and Bioengineering, 2010, 106, 358-366.	3.3	14
60	Mutational analysis of the oxygen-binding site of cholesterol oxidase and its impact on dye-mediated dehydrogenase activity. Journal of Molecular Catalysis B: Enzymatic, 2013, 88, 41-46.	1.8	14
61	Mutagenesis Study of the Cytochrome c Subunit Responsible for the Direct Electron Transfer-Type Catalytic Activity of FAD-Dependent Glucose Dehydrogenase. International Journal of Molecular Sciences, 2018, 19, 931.	4.1	14
62	Creation of a novel DET type FAD glucose dehydrogenase harboring Escherichia coli derived cytochrome b562 as an electron transfer domain. Biochemical and Biophysical Research Communications, 2020, 530, 82-86.	2.1	14
63	Alteration of Electron Acceptor Preferences in the Oxidative Half-Reaction of Flavin-Dependent Oxidases and Dehydrogenases. International Journal of Molecular Sciences, 2020, 21, 3797.	4.1	13
64	Rapid and homogeneous electrochemical detection by fabricating a high affinity bispecific antibody-enzyme complex using two Catcher/Tag systems. Biosensors and Bioelectronics, 2021, 175, 112885.	10.1	12
65	Development of glycated peptide enzyme sensor based flow injection analysis system for haemoglobin A1c monitoring using quasi-direct electron transfer type engineered fructosyl peptide oxidase. Biosensors and Bioelectronics, 2021, 177, 112984.	10.1	12
66	Effect of Growth Substrates on Production of New Soluble Glucose 3-Dehydrogenase in Halomonas (Deleya) sp. Î±-15. Applied Biochemistry and Biotechnology, 1999, 79, 827-834.	2.9	10
67	Cloning and Expression of Glucose 3-Dehydrogenase from Halomonas sp. Î±-15 in Escherichia coli. Biochemical and Biophysical Research Communications, 2001, 282, 21-27.	2.1	10
68	Advancing the Development of Glycated Protein Biosensing Technology. Journal of Diabetes Science and Technology, 2015, 9, 183-191.	2.2	10
69	Rapid, convenient, and highly sensitive detection of human hemoglobin in serum using a high-affinity bivalent antibodyâ€"enzyme complex. Talanta, 2021, 234, 122638.	5.5	10
70	Enzyme Fuel Cell for Cellulolytic Sugar Conversion Employing FAD Glucose Dehydrogenase and Carbon Cloth Electrode Based on Direct Electron Transfer Principle~!2010-01-09~!2010-02-04~!2010-05-17~!. The Open Electrochemistry Journal, 2010, 2, 6-10.	0.5	10
71	Improvement of Enantioselectivity of Chiral Organophosphate Insecticide Hydrolysis by Bacterial Phosphotriesterase. Applied Biochemistry and Biotechnology, 2000, 84-86, 311-318.	2.9	8
72	Clinical application of the serum 1,5-anhydroglucitol assay method using glucose 3-dehydrogenase. Journal of Clinical Laboratory Analysis, 2002, 16, 299-303.	2.1	8

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73	Amperometric Glucose Sensor Using Thermostable Co-Factor Binding Glucose Dehydrogenase. IEEJ Transactions on Sensors and Micromachines, 2003, 123, 185-189.	0.1	8
74	Nitrous Oxide Sensing using Oxygen-Insensitive Direct-Electron-Transfer-Type Nitrous Oxide Reductase. Electrochemistry, 2012, 80, 371-374.	1.4	8
75	Substrate specificity engineering of Escherichia coli derived fructosamine 6-kinase. Biotechnology Letters, 2013, 35, 253-258.	2.2	7
76	Continuous electrochemical monitoring of L-glutamine using redox-probe-modified L-glutamine-binding protein based on intermittent pulse amperometry. Sensors and Actuators B: Chemical, 2021, 346, 130554.	7.8	7
77	Transient potentiometry based d-serine sensor using engineered d-amino acid oxidase showing quasi-direct electron transfer property. Biosensors and Bioelectronics, 2022, 200, 113927.	10.1	7
78	Propionate Sensor Using Coenzyme-A Transferase and Acyl-CoA Oxidase. Protein and Peptide Letters, 2008, 15, 779-781.	0.9	6
79	Cloning and Characterization of Fructosamine-6-Kinase from Arthrobacter aurescens. Applied Biochemistry and Biotechnology, 2013, 170, 710-717.	2.9	6
80	Elucidation of the intra- and inter-molecular electron transfer pathways of glucoside 3-dehydrogenase. Bioelectrochemistry, 2018, 122, 115-122.	4.6	6
81	Employment of 1-Methoxy-5-Ethyl Phenazinium Ethyl Sulfate as a Stable Electron Mediator in Flavin Oxidoreductases-Based Sensors. Sensors, 2020, 20, 2825.	3.8	5
82	A self-powered glucose sensor based on BioCapacitor principle with micro-sized enzyme anode employing direct electron transfer type FADGDH. JPhys Energy, 2021, 3, 034009.	5.3	5
83	Effect of PQQ glucose dehydrogenase overexpression in Escherichia coli on sugar-dependent respiration. Journal of Biotechnology, 1995, 43, 41-44.	3.8	4
84	Identification and functional analysis of fructosyl amino acid-binding protein from Gram-positive bacterium<i>Arthrobacter</i>sp.. Journal of Applied Microbiology, 2013, 114, 1449-1456.	3.1	4
85	Enzyme Electrochemical Preparation of a 3-Keto Derivative of 1,5-Anhydro-D-Glucitol Using Glucose-3-Dehydrogenase. Applied Biochemistry and Biotechnology, 2000, 84-86, 947-954.	2.9	3
86	Glucose Monitoring by Direct Electron Transfer Needle-Type Miniaturized Electrode. Electrochemistry, 2012, 80, 375-378.	1.4	3
87	Subunit Analyses of a Novel Thermostable Glucose Dehydrogenase Showing Different Temperature Properties According to Its Quaternary Structure. , 1999, , 325-335.		3
88	Development of a Novel Conductometric Determination of Organophosphate Insecticides Using Phosphotriesterase. Electrochemistry, 1996, 64, 1234-1238.	0.3	3
89	MULTI-SUGAR ANALYSIS SYSTEM USING A NOVEL GLUCOSE-3-DEHYDROGENASE ELECTRODE. Instrumentation Science and Technology, 2002, 30, 97-105.	1.8	2
90	Synthesis of a hemin-containing copolymer as a novel immunostimulator that induces IFN-gamma production. International Journal of Nanomedicine, 2018, Volume 13, 4461-4472.	6.7	2

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91	Novel Enzyme Sensor for Glycated Protein Biosensing without the Proteolytic Processes. ECS Meeting Abstracts, 2009, , .	0.0	1
92	Tuning Fructosyl Peptidyl Oxidase into Dehydrogenase and Its Application for the Construction of an Enzyme Electrode. ECS Transactions, 2011, 35, 113-116.	0.5	1
93	Sensitive Electrochemical ATP Assay Combined with Enzymatic ATP Amplification Reaction. Electrochemistry, 2012, 80, 334-336.	1.4	1
94	Alteration of Substrate Specificity of Galactose Oxidase by Chemical Cross-linking. Electrochemistry, 1997, 65, 435-439.	0.3	1
95	Relationship Between SerumN-Carbamoyl-Î²-d-glucopyranosylamine Level and Renal Failure. Renal Failure, 2003, 25, 115-121.	2.1	0
96	Development of Nitrous Oxide Enzyme Sensor Based on Direct Electron Transfer. ECS Meeting Abstracts, 2009, , .	0.0	0
97	BioRadioTransmitter ~ A Self-empowered Wireless Glucose Sensing System~. ECS Meeting Abstracts, 2009, , .	0.0	0
98	Enzyme Electrochemical Preparation of a 3-Keto Derivative of 1, 5-Anhydro-D-Glucitol Using Glucose-3-Dehydrogenase. , 2000, , 947-954.		0
99	A Marine Bacterial Electrode for Sensitive Detection of 1, 5-anhydro-D-glucitol. Electrochemistry, 1995, 63, 1131-1133.	0.3	0
100	Effect of Growth Substrates on Production of New Soluble Glucose 3-Dehydrogenase in Halomonas (Deleya) sp. Î±-15. , 1999, , 827-834.		0
101	The Continuous 3 Month Operation of Open Circuit Potential Based Glucose Sensor Employing Direct Electron Transfer Type Fad Dependent Glucose Dehydrogenase. ECS Meeting Abstracts, 2020, MA2020-02, 2779-2779.	0.0	0