

# Nicola Zamboni

## List of Publications by Year in descending order

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127  
papers

15,312  
citations

28242

55  
h-index

19726

117  
g-index

138  
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138  
docs citations

138  
times ranked

23183  
citing authors

#	ARTICLE	IF	CITATIONS
1	L-Arginine Modulates T Cell Metabolism and Enhances Survival and Anti-tumor Activity. <i>Cell</i> , 2016, 167, 829-842.e13.	13.5	1,077
2	Modulation of Myelopoiesis Progenitors Is an Integral Component of Trained Immunity. <i>Cell</i> , 2018, 172, 147-161.e12.	13.5	702
3	Deficiency in glutamine but not glucose induces MYC-dependent apoptosis in human cells. <i>Journal of Cell Biology</i> , 2007, 178, 93-105.	2.3	599
4	Multi-omics analysis identifies ATF4 as a key regulator of the mitochondrial stress response in mammals. <i>Journal of Cell Biology</i> , 2017, 216, 2027-2045.	2.3	590
5	Identification and Functional Expression of the Mitochondrial Pyruvate Carrier. <i>Science</i> , 2012, 337, 93-96.	6.0	588
6	Gut Microbiota Orchestrates Energy Homeostasis during Cold. <i>Cell</i> , 2015, 163, 1360-1374.	13.5	581
7	<sup>13</sup> C-based metabolic flux analysis. <i>Nature Protocols</i> , 2009, 4, 878-892.	5.5	520
8	A roadmap for interpreting <sup>13</sup> C metabolite labeling patterns from cells. <i>Current Opinion in Biotechnology</i> , 2015, 34, 189-201.	3.3	513
9	Metabolic control of adult neural stem cell activity by Fasn-dependent lipogenesis. <i>Nature</i> , 2013, 493, 226-230.	13.7	448
10	Mass spectrometry-based metabolomics: a guide for annotation, quantification and best reporting practices. <i>Nature Methods</i> , 2021, 18, 747-756.	9.0	403
11	Multidimensional Optimality of Microbial Metabolism. <i>Science</i> , 2012, 336, 601-604.	6.0	360
12	High-Throughput, Accurate Mass Metabolome Profiling of Cellular Extracts by Flow Injection- <sup>13</sup> C Time-of-Flight Mass Spectrometry. <i>Analytical Chemistry</i> , 2011, 83, 7074-7080.	3.2	324
13	Ultrahigh Performance Liquid Chromatography-Tandem Mass Spectrometry Method for Fast and Robust Quantification of Anionic and Aromatic Metabolites. <i>Analytical Chemistry</i> , 2010, 82, 4403-4412.	3.2	317
14	Acute Activation of Oxidative Pentose Phosphate Pathway as First-Line Response to Oxidative Stress in Human Skin Cells. <i>Molecular Cell</i> , 2015, 59, 359-371.	4.5	294
15	Cross-Platform Comparison of Methods for Quantitative Metabolomics of Primary Metabolism. <i>Analytical Chemistry</i> , 2009, 81, 2135-2143.	3.2	290
16	High-throughput metabolic flux analysis based on gas chromatography-mass spectrometry derived <sup>13</sup> C constraints. <i>Analytical Biochemistry</i> , 2004, 325, 308-316.	1.1	276
17	Systems proteomics of liver mitochondria function. <i>Science</i> , 2016, 352, aad0189.	6.0	257
18	A Fatty Acid Oxidation-Dependent Metabolic Shift Regulates Adult Neural Stem Cell Activity. <i>Cell Reports</i> , 2017, 20, 2144-2155.	2.9	247

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19	Defining the Metabolome: Size, Flux, and Regulation. <i>Molecular Cell</i> , 2015, 58, 699-706.	4.5	234
20	GENETICS: Getting Closer to the Whole Picture. <i>Science</i> , 2007, 316, 550-551.	6.0	222
21	Multilayered Genetic and Omics Dissection of Mitochondrial Activity in a Mouse Reference Population. <i>Cell</i> , 2014, 158, 1415-1430.	13.5	222
22	FiatFlux—a software for metabolic flux analysis from <sup>13</sup> C-glucose experiments. <i>BMC Bioinformatics</i> , 2005, 6, 209.	1.2	216
23	Real-time metabolome profiling of the metabolic switch between starvation and growth. <i>Nature Methods</i> , 2015, 12, 1091-1097.	9.0	209
24	High-throughput discovery metabolomics. <i>Current Opinion in Biotechnology</i> , 2015, 31, 73-78.	3.3	203
25	Genome Engineering Reveals Large Dispensable Regions in <i>Bacillus subtilis</i> . <i>Molecular Biology and Evolution</i> , 2003, 20, 2076-2090.	3.5	188
26	D-Glucosamine supplementation extends life span of nematodes and of ageing mice. <i>Nature Communications</i> , 2014, 5, 3563.	5.8	181
27	Functional Metabolic Screen Identifies 6-Phosphofructo-2-Kinase/Fructose-2,6-Biphosphatase 4 as an Important Regulator of Prostate Cancer Cell Survival. <i>Cancer Discovery</i> , 2012, 2, 328-343.	7.7	174
28	Tradeoff between enzyme and metabolite efficiency maintains metabolic homeostasis upon perturbations in enzyme capacity. <i>Molecular Systems Biology</i> , 2010, 6, 356.	3.2	159
29	<sup>13</sup> C metabolic flux analysis in complex systems. <i>Current Opinion in Biotechnology</i> , 2011, 22, 103-108.	3.3	146
30	HIF-driven SF3B1 induces KHK-C to enforce fructolysis and heart disease. <i>Nature</i> , 2015, 522, 444-449.	13.7	144
31	Metabolite identification and molecular fingerprint prediction through machine learning. <i>Bioinformatics</i> , 2012, 28, 2333-2341.	1.8	143
32	Frontiers of high-throughput metabolomics. <i>Current Opinion in Chemical Biology</i> , 2017, 36, 15-23.	2.8	139
33	Temporal system-level organization of the switch from glycolytic to gluconeogenic operation in yeast. <i>Molecular Systems Biology</i> , 2013, 9, 651.	3.2	138
34	Branched-chain amino acid catabolism is a conserved regulator of physiological ageing. <i>Nature Communications</i> , 2015, 6, 10043.	5.8	132
35	Nontargeted in vitro metabolomics for high-throughput identification of novel enzymes in <i>Escherichia coli</i> . <i>Nature Methods</i> , 2017, 14, 187-194.	9.0	125
36	Novel biological insights through metabolomics and <sup>13</sup> C-flux analysis. <i>Current Opinion in Microbiology</i> , 2009, 12, 553-558.	2.3	120

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37	Lipid signalling drives proteolytic rewiring of mitochondria by YME1L. <i>Nature</i> , 2019, 575, 361-365.	13.7	116
38	Biological insights through nontargeted metabolomics. <i>Current Opinion in Biotechnology</i> , 2015, 34, 1-8.	3.3	115
39	Integration of Metabolomics and Transcriptomics Reveals a Complex Diet of <i>Mycobacterium tuberculosis</i> during Early Macrophage Infection. <i>MSystems</i> , 2017, 2, .	1.7	112
40	Genomewide landscape of gene-metabolome associations in <i>Escherichia coli</i> . <i>Molecular Systems Biology</i> , 2017, 13, 907.	3.2	109
41	Genome-Scale CRISPR Screening in Human Intestinal Organoids Identifies Drivers of TGF- $\beta$ Resistance. <i>Cell Stem Cell</i> , 2020, 26, 431-440.e8.	5.2	103
42	Integrated multilaboratory systems biology reveals differences in protein metabolism between two reference yeast strains. <i>Nature Communications</i> , 2010, 1, 145.	5.8	100
43	The Yeast Cyclin-Dependent Kinase Routes Carbon Fluxes to Fuel Cell Cycle Progression. <i>Molecular Cell</i> , 2016, 62, 532-545.	4.5	100
44	The RNA-Binding Protein PUM2 Impairs Mitochondrial Dynamics and Mitophagy During Aging. <i>Molecular Cell</i> , 2019, 73, 775-787.e10.	4.5	100
45	Collisional fragmentation of central carbon metabolites in LC-MS/MS increases precision of <sup>13</sup> C metabolic flux analysis. <i>Biotechnology and Bioengineering</i> , 2012, 109, 763-771.	1.7	93
46	Genome-wide RNAi Screening Identifies Protein Modules Required for 40S Subunit Synthesis in Human Cells. <i>Cell Reports</i> , 2015, 13, 2879-2891.	2.9	90
47	High-Throughput Quantitative Metabolomics: Workflow for Cultivation, Quenching, and Analysis of Yeast in a Multiwell Format. <i>Analytical Chemistry</i> , 2009, 81, 3623-3629.	3.2	86
48	Peroxisome Proliferator Activated Receptor Gamma Controls Mature Brown Adipocyte Inducibility through Glycerol Kinase. <i>Cell Reports</i> , 2018, 22, 760-773.	2.9	86
49	Dynamic 3D proteomes reveal protein functional alterations at high resolution in situ. <i>Cell</i> , 2021, 184, 545-559.e22.	13.5	82
50	The thioredoxin-1 system is essential for fueling DNA synthesis during T-cell metabolic reprogramming and proliferation. <i>Nature Communications</i> , 2018, 9, 1851.	5.8	77
51	Monitoring Mitochondrial Pyruvate Carrier Activity in Real Time Using a BRET-Based Biosensor: Investigation of the Warburg Effect. <i>Molecular Cell</i> , 2015, 59, 491-501.	4.5	76
52	A Fatty Acid Oxidation-dependent Metabolic Shift Regulates the Adaptation of BRAF-mutated Melanoma to MAPK Inhibitors. <i>Clinical Cancer Research</i> , 2019, 25, 6852-6867.	3.2	74
53	Functional screening identifies MCT4 as a key regulator of breast cancer cell metabolism and survival. <i>Journal of Pathology</i> , 2015, 237, 152-165.	2.1	73
54	Commensal Clostridiales strains mediate effective anti-cancer immune response against solid tumors. <i>Cell Host and Microbe</i> , 2021, 29, 1573-1588.e7.	5.1	71

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55	anNET: a tool for network-embedded thermodynamic analysis of quantitative metabolome data. <i>BMC Bioinformatics</i> , 2008, 9, 199.	1.2	70
56	Reducing maintenance metabolism by metabolic engineering of respiration improves riboflavin production by <i>Bacillus subtilis</i> . <i>Metabolic Engineering</i> , 2003, 5, 49-55.	3.6	63
57	An integrative metabolomics and transcriptomics study to identify metabolic alterations in aged skin of humans in vivo. <i>BMC Genomics</i> , 2017, 18, 169.	1.2	62
58	Quantification and Mass Isotopomer Profiling of $\hat{\pm}$ -Keto Acids in Central Carbon Metabolism. <i>Analytical Chemistry</i> , 2014, 86, 3232-3237.	3.2	60
59	Inhibition of Mevalonate Pathway Prevents Adipocyte Browning in Mice and Men by Affecting Protein Prenylation. <i>Cell Metabolism</i> , 2019, 29, 901-916.e8.	7.2	59
60	6-Phosphofructo-2-kinase/fructose-2,6-biphosphatase 4 is essential for p53-null cancer cells. <i>Oncogene</i> , 2017, 36, 3287-3299.	2.6	58
61	Bacterial response to acetate challenge: a comparison of tolerance among species. <i>Applied Microbiology and Biotechnology</i> , 2000, 54, 243-247.	1.7	56
62	The <i>Bacillus subtilis</i> yqjI Gene Encodes the NADP <sup>+</sup> -Dependent 6-P-Gluconate Dehydrogenase in the Pentose Phosphate Pathway. <i>Journal of Bacteriology</i> , 2004, 186, 4528-4534.	1.0	56
63	LRH-1-dependent programming of mitochondrial glutamine processing drives liver cancer. <i>Genes and Development</i> , 2016, 30, 1255-1260.	2.7	56
64	Embryonic Lethality of Mitochondrial Pyruvate Carrier 1 Deficient Mouse Can Be Rescued by a Ketogenic Diet. <i>PLoS Genetics</i> , 2016, 12, e1006056.	1.5	56
65	Engineering Genetically Encoded Nanosensors for Real-Time In Vivo Measurements of Citrate Concentrations. <i>PLoS ONE</i> , 2011, 6, e28245.	1.1	55
66	Screening of <i>Bacillus subtilis</i> transposon mutants with altered riboflavin production. <i>Metabolic Engineering</i> , 2008, 10, 216-226.	3.6	53
67	YtsJ Has the Major Physiological Role of the Four Paralogous Malic Enzyme Isoforms in <i>Bacillus subtilis</i> . <i>Journal of Bacteriology</i> , 2006, 188, 4727-4736.	1.0	52
68	Differential glucose repression in common yeast strains in response to HXK2 deletion. <i>FEMS Yeast Research</i> , 2010, 10, 322-332.	1.1	52
69	Metabolomic Profiling of <i>Bradyrhizobium diazoefficiens</i> -Induced Root Nodules Reveals Both Host Plant-Specific and Developmental Signatures. <i>International Journal of Molecular Sciences</i> , 2016, 17, 815.	1.8	52
70	The phosphoenolpyruvate carboxykinase also catalyzes C3 carboxylation at the interface of glycolysis and the TCA cycle of <i>Bacillus subtilis</i> . <i>Metabolic Engineering</i> , 2004, 6, 277-284.	3.6	49
71	MSNovelist: de novo structure generation from mass spectra. <i>Nature Methods</i> , 2022, 19, 865-870.	9.0	49
72	A Genome-Scale Database and Reconstruction of <i>Caenorhabditis elegans</i> Metabolism. <i>Cell Systems</i> , 2016, 2, 312-322.	2.9	46

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73	Yin Yang 1 Orchestrates a Metabolic Program Required for Both Neural Crest Development and Melanoma Formation. <i>Cell Stem Cell</i> , 2019, 24, 637-653.e9.	5.2	44
74	Vegan diet in young children remodels metabolism and challenges the statuses of essential nutrients. <i>EMBO Molecular Medicine</i> , 2021, 13, e13492.	3.3	43
75	FOXC2 controls adult lymphatic endothelial specialization, function, and gut lymphatic barrier preventing multiorgan failure. <i>Science Advances</i> , 2021, 7, .	4.7	43
76	Non-stationary <sup>13</sup> C metabolic flux ratio analysis. <i>Biotechnology and Bioengineering</i> , 2013, 110, 3164-3176.	1.7	41
77	An analytic and systematic framework for estimating metabolic flux ratios from <sup>13</sup> C tracer experiments. <i>BMC Bioinformatics</i> , 2008, 9, 266.	1.2	40
78	Dynamic exometabolome analysis reveals active metabolic pathways in non-replicating mycobacteria. <i>Environmental Microbiology</i> , 2015, 17, 4802-4815.	1.8	40
79	Nrf2 Activation Promotes Keratinocyte Survival during Early Skin Carcinogenesis via Metabolic Alterations. <i>Cancer Research</i> , 2015, 75, 4817-4829.	0.4	40
80	SUMOFLUX: A Generalized Method for Targeted <sup>13</sup> C Metabolic Flux Ratio Analysis. <i>PLoS Computational Biology</i> , 2016, 12, e1005109.	1.5	40
81	Knockout of the high-coupling cytochrome aa <sub>3</sub> oxidase reduces TCA cycle fluxes in <i>Bacillus subtilis</i> . <i>FEMS Microbiology Letters</i> , 2003, 226, 121-126.	0.7	39
82	Non-targeted LC-MS based metabolomics analysis of the urinary steroidal profile. <i>Analytica Chimica Acta</i> , 2017, 964, 112-122.	2.6	38
83	Astrocyte glutathione maintains endothelial barrier stability. <i>Redox Biology</i> , 2020, 34, 101576.	3.9	38
84	Transient expression and flux changes during a shift from high to low riboflavin production in continuous cultures of <i>Bacillus subtilis</i> . <i>Biotechnology and Bioengineering</i> , 2005, 89, 219-232.	1.7	32
85	Dietary excess regulates absorption and surface of gut epithelium through intestinal PPAR $\alpha$ . <i>Nature Communications</i> , 2021, 12, 7031.	5.8	32
86	Molecular pathways behind acquired obesity: Adipose tissue and skeletal muscle multiomics in monozygotic twin pairs discordant for BMI. <i>Cell Reports Medicine</i> , 2021, 2, 100226.	3.3	31
87	Model-independent fluxome profiling from <sup>2</sup> H and <sup>13</sup> C experiments for metabolic variant discrimination. <i>Genome Biology</i> , 2004, 5, R99.	13.9	30
88	Dynamic flux responses in riboflavin overproducing <i>Bacillus subtilis</i> to increasing glucose limitation in fed-batch culture. <i>Biotechnology and Bioengineering</i> , 2010, 105, 795-804.	1.7	29
89	A genetically encoded Förster resonance energy transfer sensor for monitoring in vivo trehalose-6-phosphate dynamics. <i>Analytical Biochemistry</i> , 2015, 474, 1-7.	1.1	28
90	Metabolomics Identifies a Biomarker Revealing In Vivo Loss of Functional $\beta$ -Cell Mass Before Diabetes Onset. <i>Diabetes</i> , 2019, 68, 2272-2286.	0.3	28

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91	Yin Yang 1 sustains biosynthetic demands during brain development in a stage-specific manner. <i>Nature Communications</i> , 2019, 10, 2192.	5.8	28
92	Involvement of circulating factors in the transmission of paternal experiences through the germline. <i>EMBO Journal</i> , 2020, 39, e104579.	3.5	28
93	The oxygen sensor PHD3 limits glycolysis under hypoxia via direct binding to pyruvate kinase. <i>Cell Research</i> , 2011, 21, 983-986.	5.7	26
94	Metabotypes of breast cancer cell lines revealed by non-targeted metabolomics. <i>Metabolic Engineering</i> , 2017, 43, 173-186.	3.6	26
95	Nontargeted Profiling of Coenzyme A thioesters in biological samples by tandem mass spectrometry. <i>Analytical Chemistry</i> , 2013, 85, 8284-8290.	3.2	24
96	Metabolite Identification through Machine Learning – Tackling CASMI Challenge Using FingerID. <i>Metabolites</i> , 2013, 3, 484-505.	1.3	24
97	Multiomic profiling of the liver across diets and age in a diverse mouse population. <i>Cell Systems</i> , 2022, 13, 43-57.e6.	2.9	24
98	Targeting glioma-initiating cells via the tyrosine metabolic pathway. <i>Journal of Neurosurgery</i> , 2021, 134, 721-732.	0.9	23
99	The coenzyme thiamine diphosphate displays a daily rhythm in the Arabidopsis nucleus. <i>Communications Biology</i> , 2020, 3, 209.	2.0	21
100	SLAW: A Scalable and Self-Optimizing Processing Workflow for Untargeted LC-MS. <i>Analytical Chemistry</i> , 2021, 93, 15024-15032.	3.2	21
101	ADAMTS18+ villus tip telocytes maintain a polarized VEGFA signaling domain and fenestrations in nutrient-absorbing intestinal blood vessels. <i>Nature Communications</i> , 2022, 13, .	5.8	20
102	The integrated response of primary metabolites to gene deletions and the environment. <i>Molecular BioSystems</i> , 2013, 9, 440.	2.9	19
103	Rapid, randomized development of genetically encoded FRET sensors for small molecules. <i>Analyst</i> , The, 2015, 140, 4540-4548.	1.7	17
104	Liposome-supported peritoneal dialysis in the treatment of severe hyperammonemia: An investigation on potential interactions. <i>Journal of Controlled Release</i> , 2018, 278, 57-65.	4.8	16
105	Dynamic tracing of sugar metabolism reveals the mechanisms of action of synthetic sugar analogs. <i>Glycobiology</i> , 2022, 32, 239-250.	1.3	15
106	The RNA binding protein human antigen R is a gatekeeper of liver homeostasis. <i>Hepatology</i> , 2022, 75, 881-897.	3.6	14
107	From biomarkers to integrated network responses. <i>Nature Biotechnology</i> , 2008, 26, 1090-1092.	9.4	12
108	Quantification of Cellular Folate Species by LC-MS after Stabilization by Derivatization. <i>Analytical Chemistry</i> , 2018, 90, 7349-7356.	3.2	12

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109	Mitochondrial spongiotic brain disease: astrocytic stress and harmful rapamycin and ketosis effect. <i>Life Science Alliance</i> , 2020, 3, e202000797.	1.3	12
110	Mitochondrial cell cycle cross-talk drives endoreplication in heart disease. <i>Science Translational Medicine</i> , 2021, 13, eabi7964.	5.8	12
111	Metabolomics and Transcriptomics Identify Multiple Downstream Targets of <i>Paraburkholderia phymatum</i> If54 During Symbiosis with <i>Phaseolus vulgaris</i> . <i>International Journal of Molecular Sciences</i> , 2018, 19, 1049.	1.8	11
112	Genome-wide RNAi screen identifies novel players in human 60S subunit biogenesis including key enzymes of polyamine metabolism. <i>Nucleic Acids Research</i> , 2022, 50, 2872-2888.	6.5	11
113	A high-throughput metabolomics method to predict high concentration cytotoxicity of drugs from low concentration profiles. <i>Metabolomics</i> , 2012, 8, 433-443.	1.4	10
114	Metabolic network segmentation: A probabilistic graphical modeling approach to identify the sites and sequential order of metabolic regulation from non-targeted metabolomics data. <i>PLoS Computational Biology</i> , 2017, 13, e1005577.	1.5	10
115	<i>Paraburkholderia phymatum</i> Homocitrate Synthase NifV Plays a Key Role for Nitrogenase Activity during Symbiosis with Papilionoids and in Free-Living Growth Conditions. <i>Cells</i> , 2021, 10, 952.	1.8	9
116	<i>Bradyrhizobium diazoefficiens</i> Requires Chemical Chaperones To Cope with Osmotic Stress during Soybean Infection. <i>MBio</i> , 2021, 12, .	1.8	8
117	Bifunctional Malic/Malolactic Enzyme Provides a Novel Mechanism for NADPH-Balancing in <i>Bacillus subtilis</i> . <i>MBio</i> , 2021, 12, .	1.8	6
118	Toward metabolome-based 13C flux analysis: a universal tool for measuring in vivo metabolic activity. <i>Topics in Current Genetics</i> , 2007, , 129-157.	0.7	4
119	2-Deoxy-D-glucose Restore Glucocorticoid Sensitivity in Acute Lymphoblastic Leukemia via Modification of N-Linked Glycosylation in an Oxygen Tension-Independent Manner. <i>Oxidative Medicine and Cellular Longevity</i> , 2017, 2017, 1-15.	1.9	4
120	Identification of HIF-dependent alternative splicing in gastrointestinal cancers and characterization of a long, coding isoform of SLC35A3. <i>Genomics</i> , 2021, 113, 515-529.	1.3	4
121	Fluxome Profiling in Microbes. , 2005, , 307-322.		3
122	Metabolomics and Dual RNA-Sequencing on Root Nodules Revealed New Cellular Functions Controlled by <i>Paraburkholderia phymatum</i> NifA. <i>Metabolites</i> , 2021, 11, 455.	1.3	3
123	SPHN/PHRT: Forming a Swiss-Wide Infrastructure for Data-Driven Sepsis Research. <i>Studies in Health Technology and Informatics</i> , 2020, 270, 1163-1167.	0.2	3
124	Metabolomics reveals tepotinib-related mitochondrial dysfunction in MET-activating mutations-driven models. <i>FEBS Journal</i> , 2019, 286, 2692-2710.	2.2	2
125	Editorial overview: Analytical biotechnology. <i>Current Opinion in Biotechnology</i> , 2015, 31, iv-vi.	3.3	0
126	CBMT-41. GLIOBLASTOMA CLONES DERIVED FROM TUMOR CORE AND EDGE DISPLAY SPATIAL METABOLIC HETEROGENEITY. <i>Neuro-Oncology</i> , 2018, 20, vi41-vi41.	0.6	0



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127	Hippocampal neural stem cells rapidly change their metabolic profile during neuronal differentiation &nbsp; in cell culture &nbsp;. Matters Select, 0, , .	3.0	0