



มหาวิทยาลัยมหิดล
Mahidol University

ปัญญาแผ่นดิน
Wisdom of the Land

การเขียนบทความวิจัย เพื่อให้ได้ตีพิมพ์ในวารสารระดับนานาชาติ

ประเวช อรรถวิวัฒน์วงศ์

ภาควิชาจุลชีววิทยา
คณะวิทยาศาสตร์
มหาวิทยาลัยมหิดล



Introducing Myself

- Dream to study **Communication Art**, but came to **Science** (in the real life)
- B.Sc.(Microbiology) & M.Sc.(Microbiology)
- worked at BIOTEC, NSTDA
- went to York, UK and moved to Uppsala, Sweden
- (favorite hobby) editor of THAI Bioinformatics e-magazine
- committee in the bioinformatics section, Genetic Society of Thailand
- review a number of grants & manuscripts
- Department of Microbiology, Faculty of Science, Mahidol University



General Process of Academic Research

- What kind of research topic should I do?

find the problems, state the research question

- How do I get the money to do my research?

proposal preparation

- Can I do my research alone?

- What should I do if I have no equipment for my research?

facilities, connection, assistant

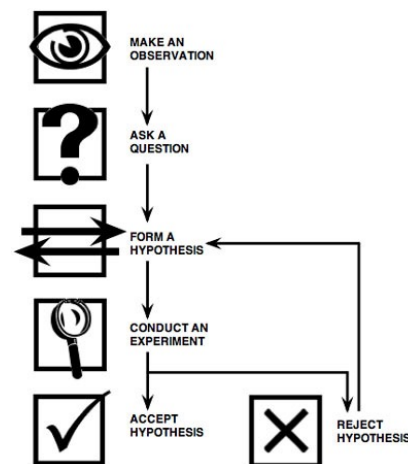
- I have no idea to analyze my data in a proper way.

- I cannot write a paper and my boss keeps forcing me to do so.

summary, report, publication



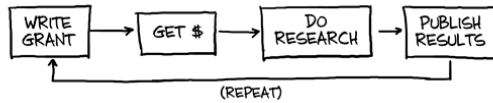
To Archive the Goal, You Need Scientific Method





THE GRANT CYCLE

HOW IT'S SUPPOSED TO WORK:



HOW IT REALLY WORKS:



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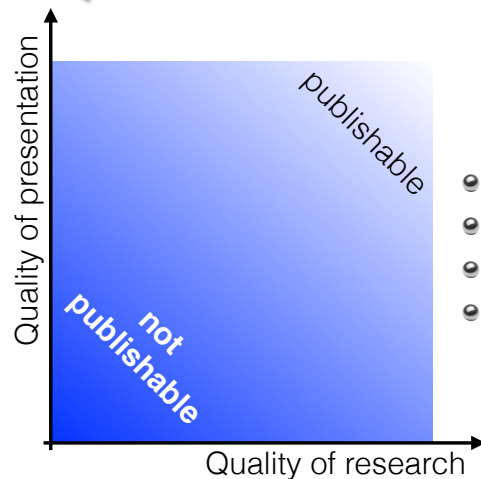
Networks and Collaborators

- Know who the key people are in your field: *meet and talk with them* (scientists are collegial — make use of this!)
- Develop collaborations with key people who you develop a good rapport with: *start small and grow*
- Identify areas of weakness that need to be addressed and consult on the best ways to address them

Ref: <http://www.jbr-pub.org/UploadFile/Nature%20Writing%20Workshop.pdf>



Achieve the Goal



- design the focus of manuscript
- choose the readers
- main message
- is research novel/original?

Ref: <http://www.jbr-pub.org/UploadFile/Nature%20Writing%20Workshop.pdf>



What Makes a Great Paper?

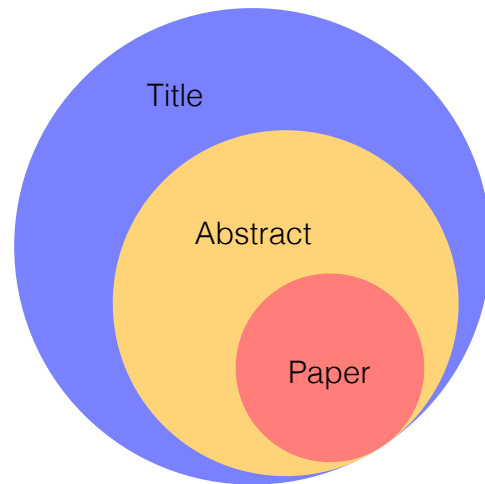
You need to tell stories.



Ref: <http://www.jbr-pub.org/UploadFile/Nature%20Writing%20Workshop.pdf>



Academic Publication



mini-workshop

abstract



Impact Factor



Eugene Garfield, 1925

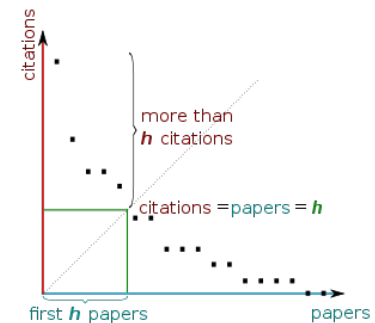
The **impact factor (IF)** of an academic journal is a measure reflecting the average number of citations to recent articles published in that journal.

$$\text{2008 Impact Factor} = \frac{\text{number of all items published in 2006–2007 were cited during 2008}}{\text{total number of "citable items" published by that journal in 2006–2007}}$$



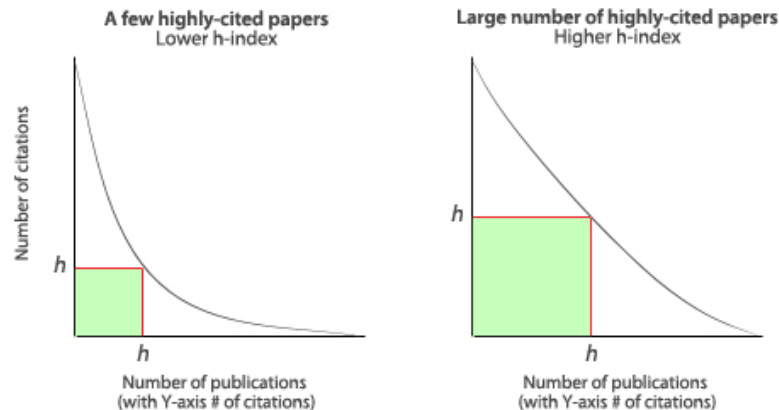
H-index—*index of your impact*

The **H-index** an author-level metric that attempts to measure both the productivity and citation impact of the publications of a scientist or scholar. The index is based on the set of the scientist's most cited papers and the number of citations that they have received in other publications.





Impact of Your Index



Example 1

Published: 11-December-2015

Nucleic acid aptamers are novel molecular recognition tools that offer many advantages compared to their antibody and peptide-based counterparts. However, challenges associated with in vitro selection, characterization, and validation have limited their widespread use in the fields of diagnostics and therapeutics. Here, we extracted detailed information about aptamer selection experiments housed in the Aptamer Base, spanning over two decades, to perform the first parameter analysis of conditions used to identify and isolate aptamers de novo. We used information from 492 published SELEX experiments and studied the relationships between the nucleic acid library, target choice, selection methods, experimental conditions, and the affinity of the resulting aptamer candidates. Our findings highlight that the choice of target and selection template made the largest and most significant impact on the success of a de novo aptamer selection. Our results further emphasize the need for improved documentation and more thorough experimentation of SELEX criteria to determine their correlation with SELEX success.

J Mol Evol (2015) 81:150–161
DOI 10.1007/s00239-015-9708-6



ORIGINAL ARTICLE

Analysis of In Vitro Aptamer Selection Parameters

Maureen McKeague¹ · Erin M. McConnell¹ · Jose Cruz-Toledo² · Elyse D. Bernard³ · Amanda Pacl¹ · Emily Mastroianni¹ · Xueru Zhang¹ · Michael Beking¹ · Tariq Francis¹ · Amanda Giambardino¹ · Ashley Cabeinha¹ · Annamaria Ruscito¹ · Rocío Aranda-Rodriguez² · Michel Dumontier^{2,4} · Maria C. DeRosa¹

2014 IF = 1.680



Example 2

Published: 11-December-2015

Phytohormone salicylic acid (SA) plays an important role in regulating various physiological and biochemical processes. Our previous study identified several protein kinases responsive to SA, suggesting that phosphorylation events play an important role in the plant response to SA. In this study, we characterized the phosphoproteome of maize in response to SA using isotope tags for relative and absolute quantification (ITRAQ) technology and TiO2 enrichment method. Based on LC-MS/MS analysis, we found a total of 858 phosphoproteins among 1495 phosphopeptides. Among them, 291 phosphopeptides corresponding to 244 phosphoproteins were found to be significantly changed after SA treatment. The phosphoproteins identified are involved in a wide range of biological processes, which indicate that the response to SA encompasses a reformatting of major cellular processes. Furthermore, some of the phosphoproteins which were not previously known to be involved with SA were found to have significantly changed phosphorylation levels. Many of these changes are phosphorylation decreases, indicating that other currently unknown SA signaling pathways that result in decreased phosphorylation of downstream targets must be involved. Our study represents the first attempt at global phosphoproteome profiling in response to SA, and provides a better understanding of the molecular mechanisms regulated by SA.



Example 2

Published: 11-December-2015

SCIENTIFIC REPORTS

Quantitative analysis of changes in the phosphoproteome of maize induced by the plant hormone salicylic acid

Ling Wu^{1,2}, Xuli Hu¹, Sheng Wang¹, Li Tian¹, Yanjun Peng¹, Zeping Hao¹, Liangsheng Wu¹ & Yanjun Chen¹

Phytohormone salicylic acid (SA) plays an important role in regulating various physiological and biochemical processes. Our previous study identified several protein kinases responsive to SA, suggesting that phosphorylation events play an important role in the plant response to SA. In this study, we characterized the phosphoproteome of maize in response to SA using isotope tags for relative and absolute quantification (ITRAQ) technology and TiO2 enrichment method. Based on LC-MS/MS analysis, we found a total of 858 phosphoproteins among 1495 phosphopeptides. Among them, 291 phosphopeptides corresponding to 244 phosphoproteins were found to be significantly changed after SA treatment. The phosphoproteins identified are involved in a wide range of biological processes, which indicate that the response to SA encompasses a reformatting of major cellular processes. Furthermore, some of the phosphoproteins which were not previously known to be involved with SA were found to have significantly changed phosphorylation levels. Many of these changes are phosphorylation decreases, indicating that other currently unknown SA signaling pathways that result in decreased phosphorylation of downstream targets must be involved. Our study represents the first attempt at global phosphoproteome profiling in response to SA, and provides a better understanding of the molecular mechanisms regulated by SA.

The phytohormone salicylic acid (SA) plays an important role in regulating various physiological and biochemical processes. Our previous study identified several protein kinases responsive to SA, suggesting that phosphorylation events play an important role in the plant response to SA. In this study, we characterized the phosphoproteome of maize in response to SA using isotope tags for relative and absolute quantification (ITRAQ) technology and TiO2 enrichment method. Based on LC-MS/MS analysis, we found a total of 858 phosphoproteins among 1495 phosphopeptides. Among them, 291 phosphopeptides corresponding to 244 phosphoproteins were found to be significantly changed after SA treatment. The phosphoproteins identified are involved in a wide range of biological processes, which indicate that the response to SA encompasses a reformatting of major cellular processes. Furthermore, some of the phosphoproteins which were not previously known to be involved with SA were found to have significantly changed phosphorylation levels. Many of these changes are phosphorylation decreases, indicating that other currently unknown SA signaling pathways that result in decreased phosphorylation of downstream targets must be involved. Our study represents the first attempt at global phosphoproteome profiling in response to SA, and provides a better understanding of the molecular mechanisms regulated by SA.

SCIENTIFIC REPORTS | 5:10000 | DOI: 10.1038/srep10000

2014 IF = 5.578



Example 3

Published: 8-December-2015

Hepatitis A virus (HAV) is an ancient and ubiquitous human pathogen recovered previously only from primates. The sole species of the genus *Hepatovirus*, existing in both enveloped and nonenveloped forms, and with a capsid structure intermediate between that of insect viruses and mammalian picornaviruses, HAV is enigmatic in its origins. We conducted a targeted search for hepatoviruses in 15,987 specimens collected from 209 small mammal species globally and discovered highly diversified viruses in bats, rodents, hedgehogs, and shrews, which by pairwise sequence distance comprise 13 novel *Hepatovirus* species. Near-complete genomes from nine of these species show conservation of unique hepatovirus features, including predicted internal ribosome entry site structure, a truncated VP4 capsid protein lacking N-terminal myristoylation, a carboxyl-terminal pX extension of VP1, VP2 late domains involved in membrane envelopment, and a cis-acting replication element within the 3Dpol sequence. Antibodies in some bat sera immunoprecipitated and neutralized human HAV, suggesting conservation of critical antigenic determinants. Limited phylogenetic cosegregation among hepatoviruses and their hosts and recombination patterns are indicative of major hepatovirus host shifts in the past. Ancestral state reconstructions suggest a Hepatovirus origin in small insectivorous mammals and a rodent origin of human HAV. Patterns of infection in small mammals mimicked those of human HAV in hepatotropism, fecal shedding, acute nature, and extinction of the virus in a closed host population. The evolutionary conservation of hepatovirus structure and pathogenesis provide novel insight into the origins of HAV and highlight the utility of analyzing animal reservoirs for risk assessment of emerging viruses.



Example 3

Published: 8-December-2015

Evolutionary origins of hepatitis A virus in small mammals

Jan Felix Dreier^{1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61,62,63,64,65,66,67,68,69,70,71,72,73,74,75,76,77,78,79,80,81,82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99,100,101,102,103,104,105,106,107,108,109,110,111,112,113,114,115,116,117,118,119,120,121,122,123,124,125,126,127,128,129,130,131,132,133,134,135,136,137,138,139,140,141,142,143,144,145,146,147,148,149,150,151,152,153,154,155,156,157,158,159,160,161,162,163,164,165,166,167,168,169,170,171,172,173,174,175,176,177,178,179,180,181,182,183,184,185,186,187,188,189,190,191,192,193,194,195,196,197,198,199,200,201,202,203,204,205,206,207,208,209,210,211,212,213,214,215,216,217,218,219,220,221,222,223,224,225,226,227,228,229,230,231,232,233,234,235,236,237,238,239,240,241,242,243,244,245,246,247,248,249,250,251,252,253,254,255,256,257,258,259,260,261,262,263,264,265,266,267,268,269,270,271,272,273,274,275,276,277,278,279,280,281,282,283,284,285,286,287,288,289,290,291,292,293,294,295,296,297,298,299,300,301,302,303,304,305,306,307,308,309,310,311,312,313,314,315,316,317,318,319,320,321,322,323,324,325,326,327,328,329,330,331,332,333,334,335,336,337,338,339,340,341,342,343,344,345,346,347,348,349,350,351,352,353,354,355,356,357,358,359,360,361,362,363,364,365,366,367,368,369,370,371,372,373,374,375,376,377,378,379,380,381,382,383,384,385,386,387,388,389,390,391,392,393,394,395,396,397,398,399,400,401,402,403,404,405,406,407,408,409,410,411,412,413,414,415,416,417,418,419,420,421,422,423,424,425,426,427,428,429,430,431,432,433,434,435,436,437,438,439,440,441,442,443,444,445,446,447,448,449,450,451,452,453,454,455,456,457,458,459,460,461,462,463,464,465,466,467,468,469,470,471,472,473,474,475,476,477,478,479,480,481,482,483,484,485,486,487,488,489,490,491,492,493,494,495,496,497,498,499,500,501,502,503,504,505,506,507,508,509,510,511,512,513,514,515,516,517,518,519,520,521,522,523,524,525,526,527,528,529,530,531,532,533,534,535,536,537,538,539,540,541,542,543,544,545,546,547,548,549,550,551,552,553,554,555,556,557,558,559,560,561,562,563,564,565,566,567,568,569,570,571,572,573,574,575,576,577,578,579,580,581,582,583,584,585,586,587,588,589,590,591,592,593,594,595,596,597,598,599,600,601,602,603,604,605,606,607,608,609,610,611,612,613,614,615,616,617,618,619,620,621,622,623,624,625,626,627,628,629,630,631,632,633,634,635,636,637,638,639,640,641,642,643,644,645,646,647,648,649,650,651,652,653,654,655,656,657,658,659,660,661,662,663,664,665,666,667,668,669,670,671,672,673,674,675,676,677,678,679,680,681,682,683,684,685,686,687,688,689,690,691,692,693,694,695,696,697,698,699,700,701,702,703,704,705,706,707,708,709,710,711,712,713,714,715,716,717,718,719,720,721,722,723,724,725,726,727,728,729,730,731,732,733,734,735,736,737,738,739,740,741,742,743,744,745,746,747,748,749,750,751,752,753,754,755,756,757,758,759,760,761,762,763,764,765,766,767,768,769,770,771,772,773,774,775,776,777,778,779,780,781,782,783,784,785,786,787,788,789,790,791,792,793,794,795,796,797,798,799,800,801,802,803,804,805,806,807,808,809,810,811,812,813,814,815,816,817,818,819,820,821,822,823,824,825,826,827,828,829,830,831,832,833,834,835,836,837,838,839,840,841,842,843,844,845,846,847,848,849,850,851,852,853,854,855,856,857,858,859,860,861,862,863,864,865,866,867,868,869,870,871,872,873,874,875,876,877,878,879,880,881,882,883,884,885,886,887,888,889,890,891,892,893,894,895,896,897,898,899,900,901,902,903,904,905,906,907,908,909,910,911,912,913,914,915,916,917,918,919,920,921,922,923,924,925,926,927,928,929,930,931,932,933,934,935,936,937,938,939,940,941,942,943,944,945,946,947,948,949,950,951,952,953,954,955,956,957,958,959,960,961,962,963,964,965,966,967,968,969,970,971,972,973,974,975,976,977,978,979,980,981,982,983,984,985,986,987,988,989,990,991,992,993,994,995,996,997,998,999,1000}

¹Department of Biology, University of Texas at Austin, 78712-1040, Austin, Texas, USA; ²Department of Biology, University of Texas at Austin, 78712-1040, Austin, Texas, USA; ³Department of Biology, University of Texas at Austin, 78712-1040, Austin, Texas, USA; ⁴Department of Biology, University of Texas at Austin, 78712-1040, Austin, Texas, USA; ⁵Department of Biology, University of Texas at Austin, 78712-1040, Austin, Texas, USA; ⁶Department of Biology, University of Texas at Austin, 78712-1040, Austin, Texas, USA; ⁷Department of Biology, University of Texas at Austin, 78712-1040, Austin, Texas, USA; ⁸Department of Biology, University of Texas at Austin, 78712-1040, Austin, Texas, USA; ⁹Department of Biology, University of Texas at Austin, 78712-1040, Austin, Texas, USA; ¹⁰Department of Biology, University of Texas at Austin, 78712-1040, Austin, Texas, USA; ¹¹Department of Biology, University of Texas at Austin, 78712-1040, Austin, Texas, USA; ¹²Department of Biology, University of Texas at Austin, 78712-1040, Austin, Texas, USA; 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2014 IF = 9.674



Example 4

Published in October-2015

2014 IF = 0.371

The production of high level β -xylosidase with β -xylanase by mixed culture was investigated by using low cost rice straw as a substrate. Among 180 Gram's positive spore forming bacteria, *Bacillus amyloliquefaciens* DMKUB24 was selected for its highest production of β -xylosidase, 7.9 U/mL, with 2.3 U/mL of β -xylanase activity, whereas *B. pumilus* DMKUB39 was selected for its highest production of β -xylanase, 10.7 U/mL, with 0.6 U/mL of β -xylosidase activity. However, β -xylosidase and β -xylanase produced by the mixed cultures of strains DMKUB24 and DMKUB39 were 9.8 U/mL and 11.3 U/mL, respectively, which were higher than that of produced by monoculture of each strain. To enhance the production of high level of β -xylosidase with β -xylanase, the mixed culture strains were therefore employed, using the Plackett-Burman (PB) experimental design to screen important parameters influencing the co production of β -xylosidase and β -xylanase. NaOH-treated rice straw, peptone, $\text{MgSO}_4 \cdot 7\text{H}_2\text{O}$ and initial pH medium were the main factors influencing the production of mixed enzymes. Central composite design (CCD) and response surface methodology (RSM) were applied to determine the optimal concentration of each significant variable. The maximal β -xylosidase activity of 46.1 U/mL with 24.0 U/mL of β -xylanase activity in a 1L stirrer fermentor at 48 h cultivation was obtained from the optimized medium of β -xylosidase production, while the maximal β -xylanase activity of 49.3 U/mL with 36.0 U/mL of β -xylosidase activities was also achieved from the optimized medium of β -xylanase production.



Good Abstract—easy comparison

Nucleic acid aptamers are novel molecular recognition tools that offer many advantages compared to their antibody and peptide-based counterparts. However, challenges associated with in vitro selection, characterization, and validation have limited their widespread use in the fields of diagnostics and therapeutics. Here, we extracted detailed information about aptamer selection experiments housed in the Aptamer Base, spanning over two decades, to perform the first parameter analysis of conditions used to identify and isolate aptamers de novo. We used information from 482 published SELEX experiments and studied the relationships between the nucleic acid library, target choice, selection methods, experimental conditions, and the affinity of the resulting aptamer candidates. Our findings highlight that the choice of target and selection template made the largest and most significant impact on the success of a de novo aptamer selection. Our results further emphasize the need for improved documentation and more thorough experimentation of SELEX criteria to determine their correlation with SELEX success.

2014 IF = 1.680

Phytochrome *sa* (SA) plays an important role in regulating various physiological and biochemical processes. Our previous study identified several protein kinases responsive to SA, suggesting that phosphorylation events play an important role in the plant response to SA. In this study, we characterized the phosphoproteomes of maize in response to SA using isotopic tags for relative and absolute quantification (iTRAQ) technology and TOC enrichment method. Based on LC-MS/MS analysis, we found a total of 858 phosphoproteins among 1485 phosphopeptides. Among them, 291 phosphopeptides corresponding to 244 phosphoproteins were found to be significantly changed after SA treatment. The phosphoproteins identified are involved in a wide range of biological processes, which indicate that the response to SA encompasses a reformatting of major cellular processes. Furthermore, some of the phosphoproteins which were not previously known to be involved with SA were found to have significantly changed phosphorylation levels. Many of these changes are phosphorylation decreases, indicating that other currently unknown SA signaling pathways that result in decreased phosphorylation of downstream targets must be involved. Our study represents the first attempt at global phosphoproteome profiling in response to SA, and provides a better understanding of the molecular mechanisms regulated by SA.

2014 IF = 5.578

Hepatitis A virus (HAV) is an ancient and ubiquitous human pathogen recovered previously only from primates. The sole species of the genus *Hepatovirus*, existing in both enveloped and nonenveloped forms, and with a capsid structure intermediate between that of insect viruses and mammalian picornaviruses, HAV is enigmatic in its origins. We conducted a targeted search for hepatoviruses in 15,987 specimens collected from 209 small mammal species globally and discovered highly diversified viruses in bats, rodents, hedgehogs, and shrews, which by pairwise sequence distance comprise 13 novel *Hepatovirus* species. Near-complete genomes from nine of these species show conservation of unique hepatovirus features, including predicted internal ribosome entry site structure, a truncated VP4 capsid protein lacking N-terminal myristoylation, a carboxyl-terminal pX extension of VP1, VP2 late domains involved in membrane envelopment, and a cis-acting replication element within the 3Dpol sequence. Antibodies in some bat sera immunoprecipitated and neutralized human HAV, suggesting conservation of critical antigenic determinants. Limited phylogenetic cosegregation among hepatoviruses and their hosts and recombination patterns are indicative of major hepatovirus host shifts in the past. Ancestral state reconstructions suggest a Hepatovirus origin in small insectivorous mammals and a rodent origin of human HAV. Patterns of infection in small mammals mimicked those of human HAV in hepatotropism, fecal shedding, acute nature, and extinction of the virus in a closed host population. The evolutionary conservation of hepatovirus structure and pathogenesis provide novel insight into the origins of HAV and highlight the utility of analyzing animal reservoirs for risk assessment of emerging viruses.

2014 IF = 9.674



Paper Body

- introduction
- materials & methods (methodology)
- results + supplementary data (tests, figures or tables)
- discussion
- conclusion
- acknowledgement
- references



Introduction— *tips*

- very in length, depends on journal and author
- generally, less than 2 pages (of a normal Word document in 12pt, single space)
- simply to introduce the subject in hand, question and the idea being tested
- describe approach in the paper for unfamiliar reader
- very briefly mention the conclusion of the paper



Materials and Methods— *tips*

- cover only what you did & how you did it
- de not include details of published protocol
- include what data you collected and how

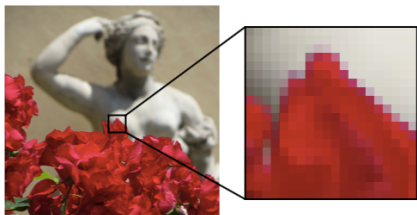


Results— *tips*

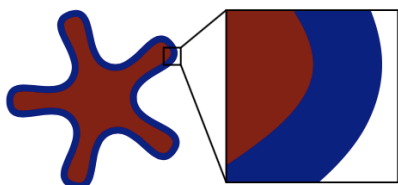
- begin each paragraph with an opening sentence that tells the reader what question is being tested in the experiments described in that paragraph
- any critical result that include multiple data points should be shown in tables or figures
- results with only a few numbers or simple conclusion should be described in text instead of table or figure



Figure



raster



 vector



Discussion—*tips*

- do not simply restate the results
- explain your conclusions and interpretations of the results section
- how did your results compare with the expected results?
- what further predictions can be gleaned from the results?



Discussion—*tips*

- do not simply restate the results
- explain your conclusions and interpretations of the results section
- how did your results compare with the expected results?
- what further predictions can be gleaned from the results?



Steps to Organizing Your Manuscript—*tips*

- prepare the **figures** and **tables**
- write the **Methods**
- write up the **Results**
- write the **Discussion** (finalize the Results and Discussion before writing the introduction)
- write a clear **Conclusion**
- write **introduction**
- write the **Abstract**
- compose a concise and descriptive **Title**
- select **Keywords** for indexing
- write the **Acknowledgements**
- write up the **References**



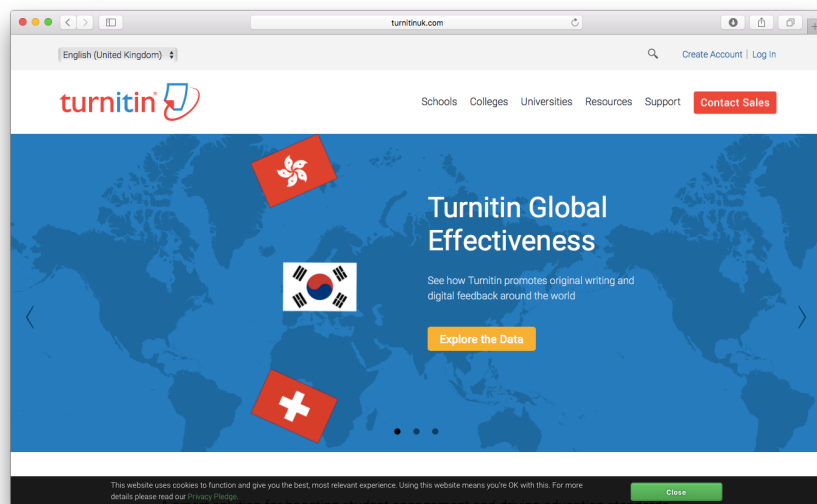
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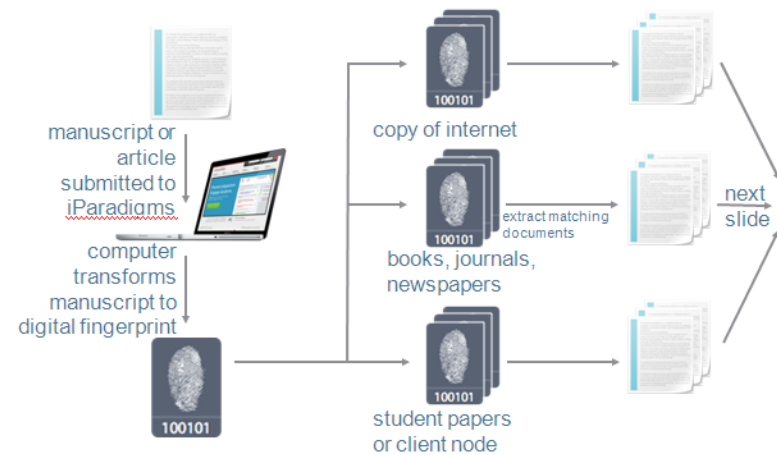
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Example 1

Cell Metabolism Article

Interleukin-6 is an Essential Regulator of Satellite Cell-Mediated Skeletal Muscle Hypertrophy

Antonia L. Serrano,^{1,2} Bernat Bana-Roca,^{1,2} Elisavinda Paragaitaki,^{1,2} Maria Juez,^{1,2} and Peter Madsen-Gibson^{1,2}

¹Department of Cell Biology and Biophysics, Center for Gene Regulation (CGR) and Center for Neurodegenerative Diseases (CEND), Princeton University, 855-0000 Princeton, New Jersey

²Princeton University, 855-0000 Princeton, New Jersey

*Correspondence: p.madsen-gibson@princeton.edu

DOI: 10.1016/j.cmet.2014.01.001

SUMMARY

Skeletal muscles adapt to increasing workload by augmenting their fiber size, through mechanisms that are poorly understood. This study identifies the cytokine interleukin-6 (IL-6) as an essential regulator of satellite cell-mediated skeletal muscle hypertrophy. IL-6 is locally and transiently produced by growing myotubes and associated satellite cells, and genetic loss of IL-6 blunted muscle hypertrophy in vivo. IL-6 deficiency disrupted satellite cell proliferation and myoblast accretion in the myotubes during the growth phase in vivo, resulting in a 30% reduction in muscle mass. IL-6 loss also affected satellite cell behavior in vitro, in a STAT3-dependent manner. Myoblasts produced IL-6 further stimulated cell proliferation in a paracrine fashion. These findings reveal a role for IL-6 in regulating muscle growth and provide mechanistic evidence for the contribution of satellite cells to this process.

INTRODUCTION

Loss of muscle mass occurs in multiple settings, including aging, AIDS, cachexia, and neuromuscular disorders, as well as in muscle atrophy induced by limb immobilization. Understanding the molecular pathways that regulate muscle mass is therefore a high priority. In this regard, we have previously established that the protein modulation of skeletal muscle mass is responsive to increased workload in response to individual myofibers, but the key molecular mechanism of this process is not yet understood (Giles, 2005). Emerging evidence indicates that the endogenous autocrine growth factor myostatin plays a central role in muscle mass regulation. Myostatin is a member of the transforming growth factor- β (TGF- β) superfamily, and its activity is regulated by the growth differentiation factor-8 (GDF-8) and GDF-11. Myostatin is secreted by muscle cells and acts on muscle cells to inhibit myoblast proliferation and myotube growth. In the absence of myostatin, muscle mass is increased, and myoblast proliferation is increased. Myostatin is secreted by muscle cells and acts on muscle cells to inhibit myoblast proliferation and myotube growth. In the absence of myostatin, muscle mass is increased, and myoblast proliferation is increased.

RESULTS

IL-6 Deficiency Blunts Hypertrophic Muscle Growth

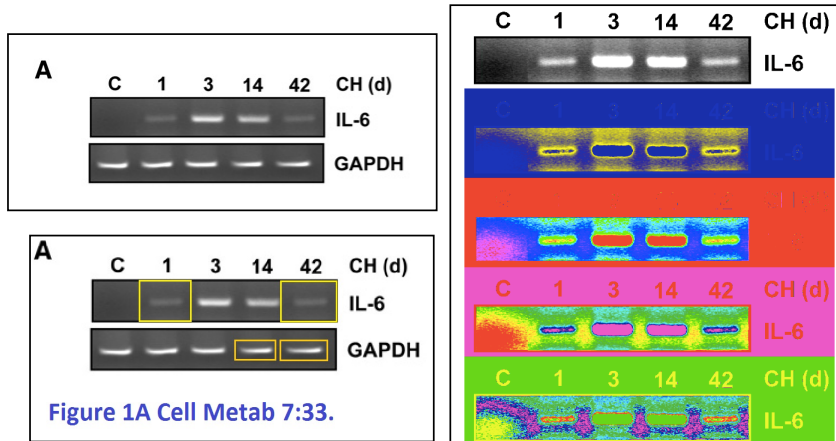
To investigate the potential role of IL-6 in skeletal muscle growth, we generated and analyzed mice deficient for IL-6. In these mice, IL-6 expression was reduced during the growth phase of myoblasts, and muscle mass was significantly reduced. IL-6 deficiency also affected myoblast proliferation and myotube growth. IL-6 deficiency disrupted satellite cell proliferation and myoblast accretion in the myotubes during the growth phase in vivo, resulting in a 30% reduction in muscle mass. IL-6 loss also affected satellite cell behavior in vitro, in a STAT3-dependent manner. Myoblasts produced IL-6 further stimulated cell proliferation in a paracrine fashion. These findings reveal a role for IL-6 in regulating muscle growth and provide mechanistic evidence for the contribution of satellite cells to this process.

DISCUSSION

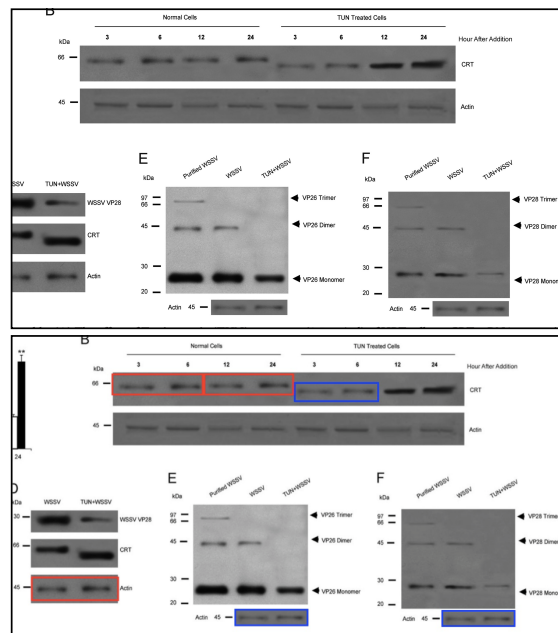
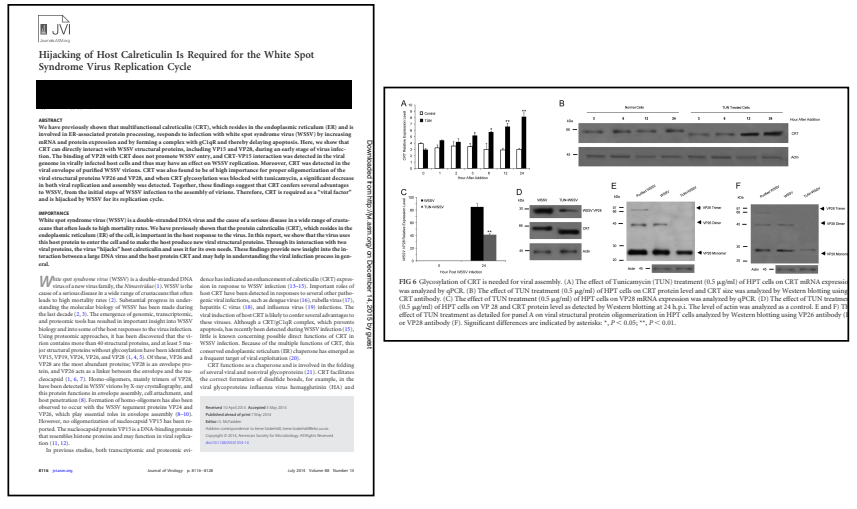
These findings reveal a role for IL-6 in regulating muscle growth and provide mechanistic evidence for the contribution of satellite cells to this process. IL-6 is a key regulator of satellite cell-mediated skeletal muscle hypertrophy. IL-6 is locally and transiently produced by growing myotubes and associated satellite cells, and genetic loss of IL-6 blunted muscle hypertrophy in vivo. IL-6 deficiency disrupted satellite cell proliferation and myoblast accretion in the myotubes during the growth phase in vivo, resulting in a 30% reduction in muscle mass. IL-6 loss also affected satellite cell behavior in vitro, in a STAT3-dependent manner. Myoblasts produced IL-6 further stimulated cell proliferation in a paracrine fashion. These findings reveal a role for IL-6 in regulating muscle growth and provide mechanistic evidence for the contribution of satellite cells to this process.



Figure 1A



Example 2



5 Tips for Publishing Your First Academic Article

- target an appropriate journal
- say something new
- edit your work extensively
- reference strategically
- make it difficult for reviewers to say "NO"



Target an Appropriate Journal

Molecular Biology and Evolution publishes research at the interface of molecular (including genomics) and evolutionary biology. We consider manuscripts containing patterns, processes, and predictions at all levels of population, taxonomic, functional, and phenotypic organizations. In addition to fundamental discoveries of broader scope and impact, we are interested in publishing new and improved methods, resources, technologies, and theories that will significantly advance evolutionary research. We also publish balanced reviews of recent developments in genome evolution and forward-looking perspectives suggesting future directions in a field or application of molecular evolution.

IMPACT FACTOR AND RANKING

Year	Impact Factor	SI: Biochemistry & Molecular Biology	SI: Evolutionary Biology	SI: Genetics & Heredity
2014	9.105	21 out of 289	4 out of 46	10 out of 167
2013	14.308	6 out of 251	2 out of 46	5 out of 164
2012	10.353	14 out of 250	4 out of 47	8 out of 161
2011	5.550	43 out of 289	4 out of 45	20 out of 157
2010	5.510	49 out of 286	7 out of 45	20 out of 156
2009	9.872	17 out of 283	2 out of 44	9 out of 144
2008	7.280	27 out of 276	4 out of 39	12 out of 138
2007	6.438	33 out of 263	4 out of 35	15 out of 132
2006	6.726	31 out of 262	4 out of 34	16 out of 131

This information is taken from the Journal Citation Reports, published annually as part of the Science Citation Index by ISI.

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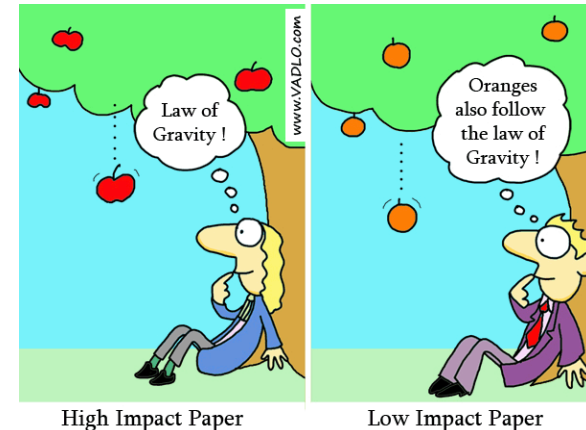
Impact factor: 9.105
5-Yr Impact factor: 11.667

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Difference between High & Low Impact Papers



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PLOS ONE	\$1,495 USD (Effective October 1, 2015 10:00 AM)

5 Tips for Publishing Your First Academic Article

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- edit your work extensively
- reference strategically
- make it difficult for reviewers to say “NO”

Ref: <http://www.studentpulse.com/blog/posts/51/5-tips-for-publishing-your-first-academic-article/>



Say Something New



If I have seen further than others,
it is by standing upon the
shoulders of giants.

Sir Isaac Newton

5 Tips for Publishing Your First Academic Article

- target an appropriate journal
- say something new
- **edit your work extensively**
- reference strategically
- make it difficult for reviewers to say “NO”

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Editing Your Work

- **Fix Confusing Passages**—*simpler is better*
 - be specific
 - do not ramble
 - choose simple words
 - write short sentences
 - keep paragraphs short
 - eliminate fluff words—very, little or rather
 - do not be redundant or repeat yourself
- **Avoid the Passive Voice**—*use active voice instead*

5 Tips for Publishing Your First Academic Article

- target an appropriate journal
- say something new
- edit your work extensively
- **reference strategically**
- make it difficult for reviewers to say “NO”

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Tips for picking the right references

- go to the original source
- reference articles that are widely cited
- cite articles from the journal to which you are submitting
- format of reference
- check all spelling
- software for automated manipulation—*EndNote, Papers*

5 Tips for Publishing Your First Academic Article

- target an appropriate journal
- say something new
- edit your work extensively
- reference strategically
- **make it difficult for reviewers to say “NO”**

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SLEEP
พักผ่อนให้เพียงพอ



ดื่มน้ำสะอาด
DRINK WATER



มีกิจกรรมยามว่าง
TAKE UP A HOBBY



จัดตารางให้ชีวิต
SET AN AGENDA



หัวเราะ
LAUGH



หัดตั้งคำถาม
ASK THE QUESTION



อุ่นเครื่องสมองก่อนเรียน
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รู้จักทดสอบตัวเอง
TEST YOURSELF



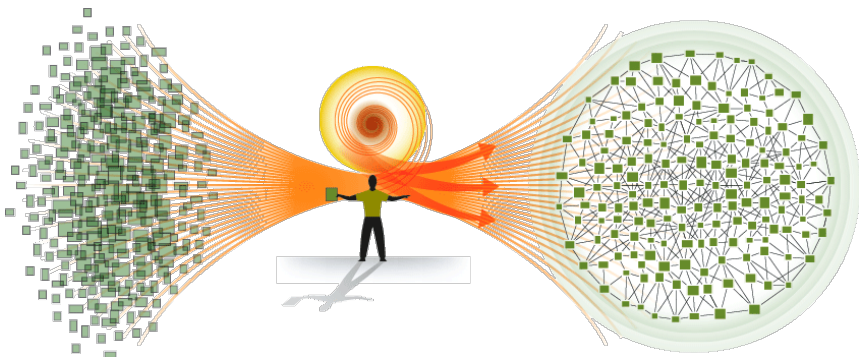
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**How to make a good academic publication
and get publish in an academic journal**

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December 17th, 2015