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John Wilbanks

Executive Director, Science Commons

21 October 2005

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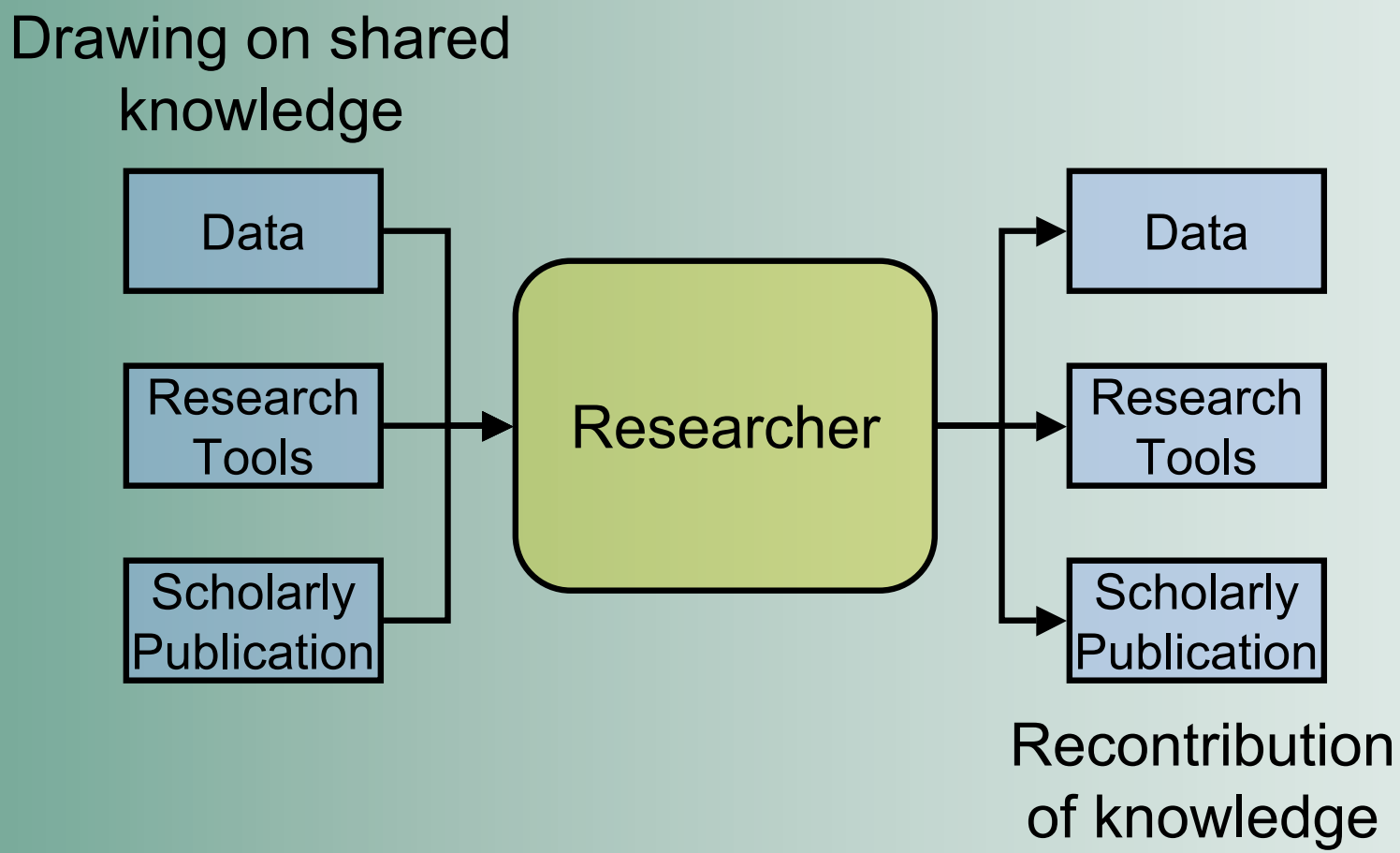

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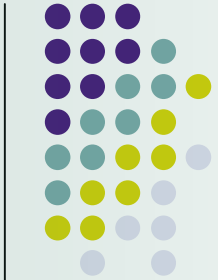

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- Extend the Creative Commons approach into science
  - Standard legal code
  - Innovative technology application

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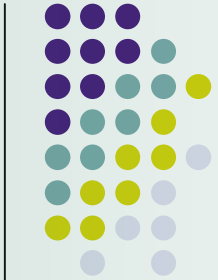

- Paul David

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- Michael Eisen

  Principal Investigator, Life Sciences Division, Lawrence Berkeley National Lab

  Founder, Public Library of Science

- Joshua Lederberg

  1958 Nobel Prize Winner, Physiology or Medicince

  Foundational Geneticist

- Arti Rai

  Professor of Law at Duke Law School

  Leading thinker on patents, open source discovery models and institutional designs for licensing

- Sir John Sulston

  2002 Nobel Prize Winner, Physiology or Medicine

  Sequenced *c. elegans* genome, led UK efforts in the Human Genome Project

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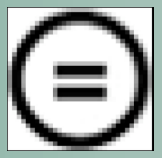

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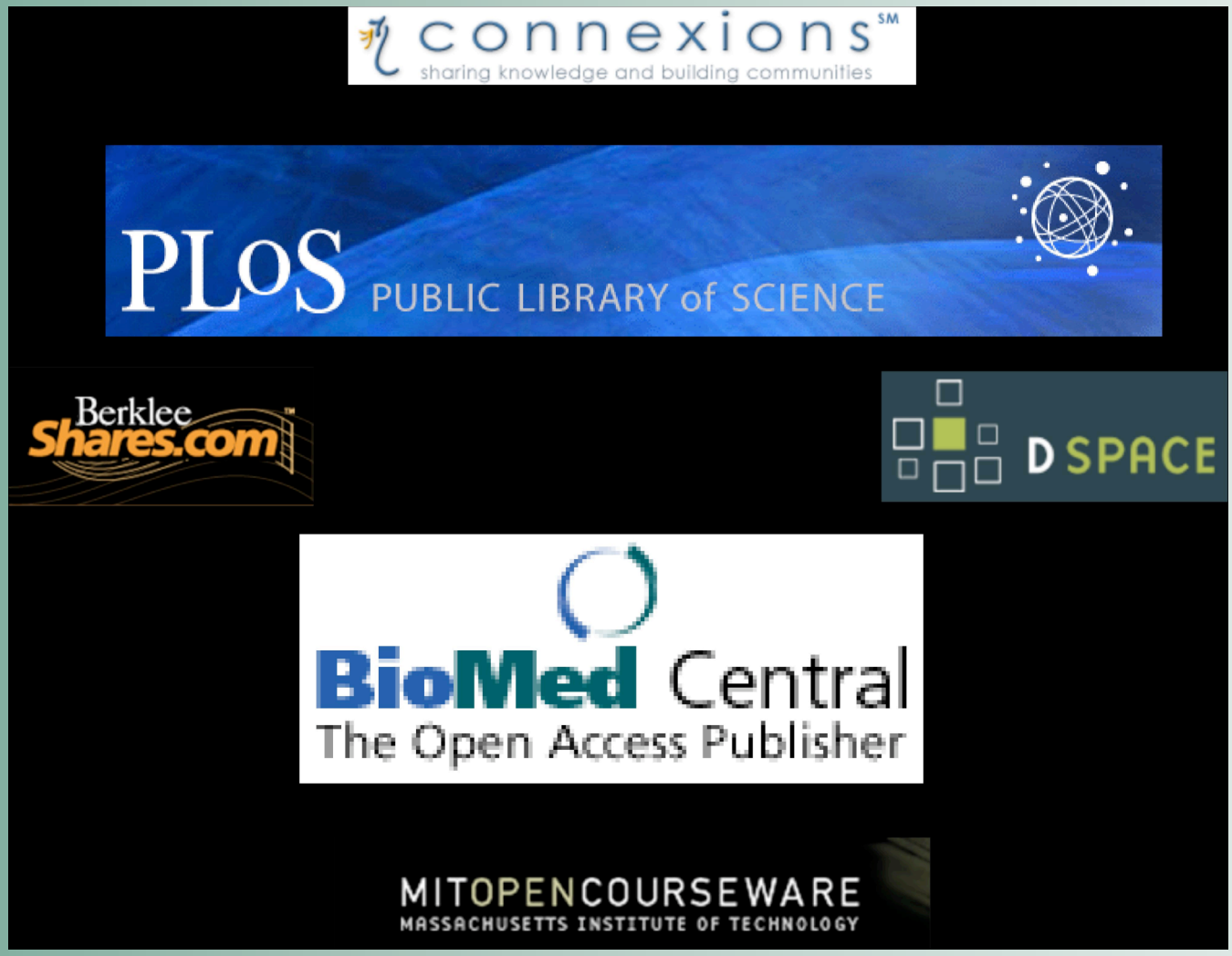

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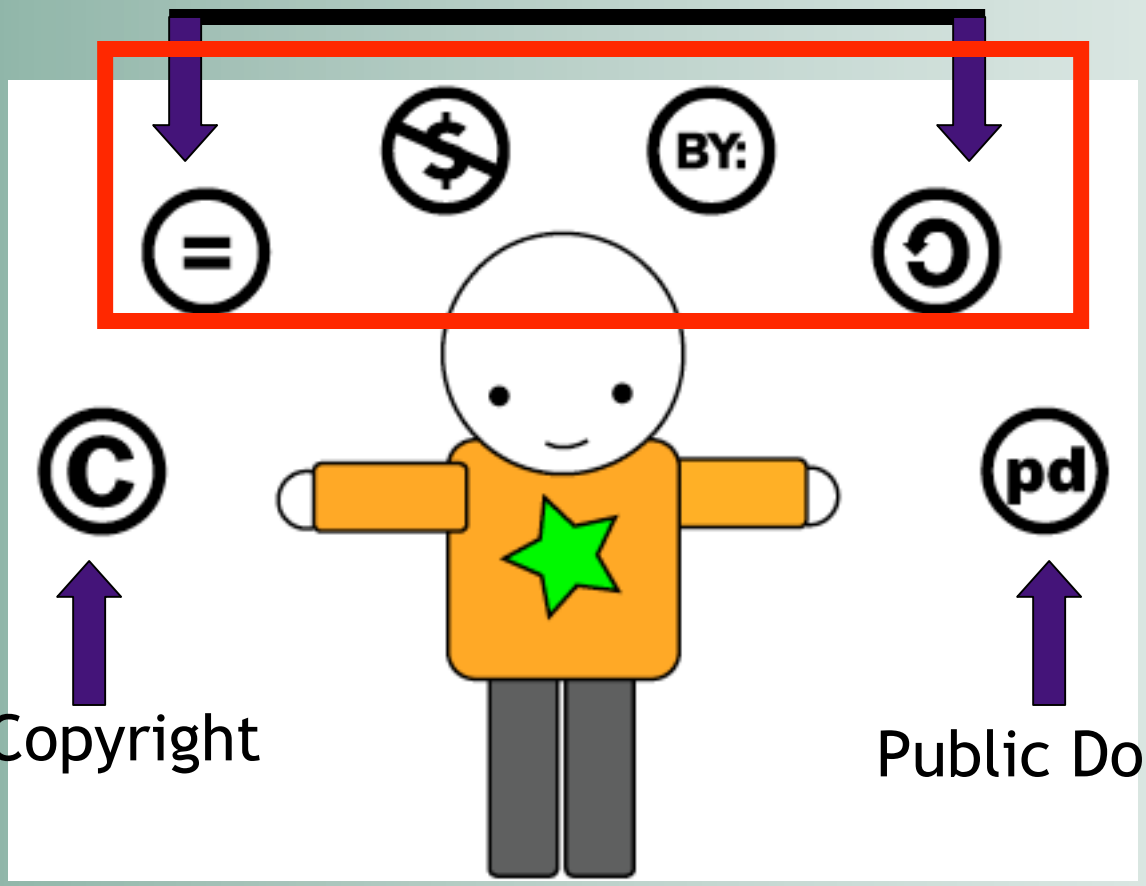

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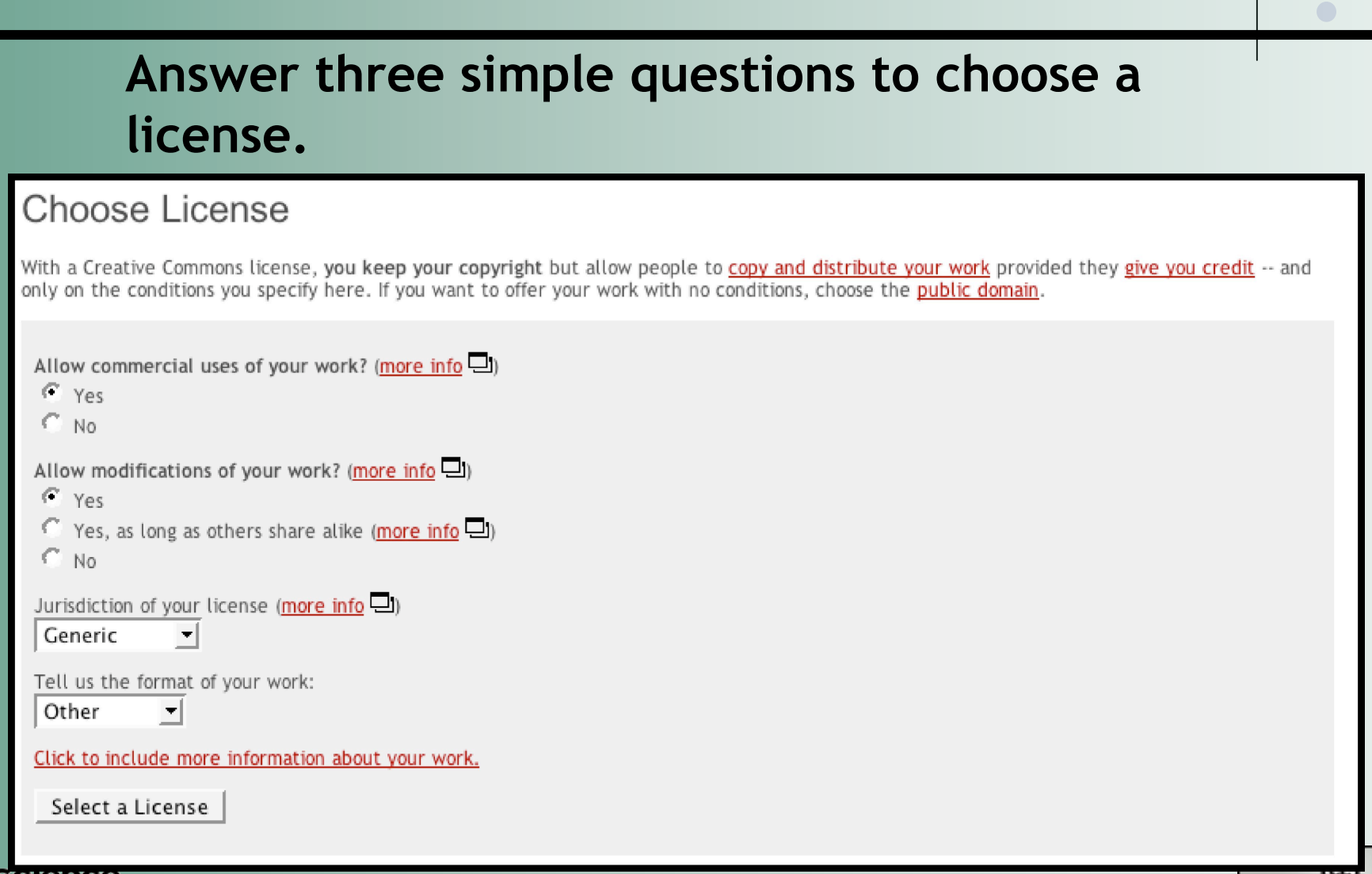

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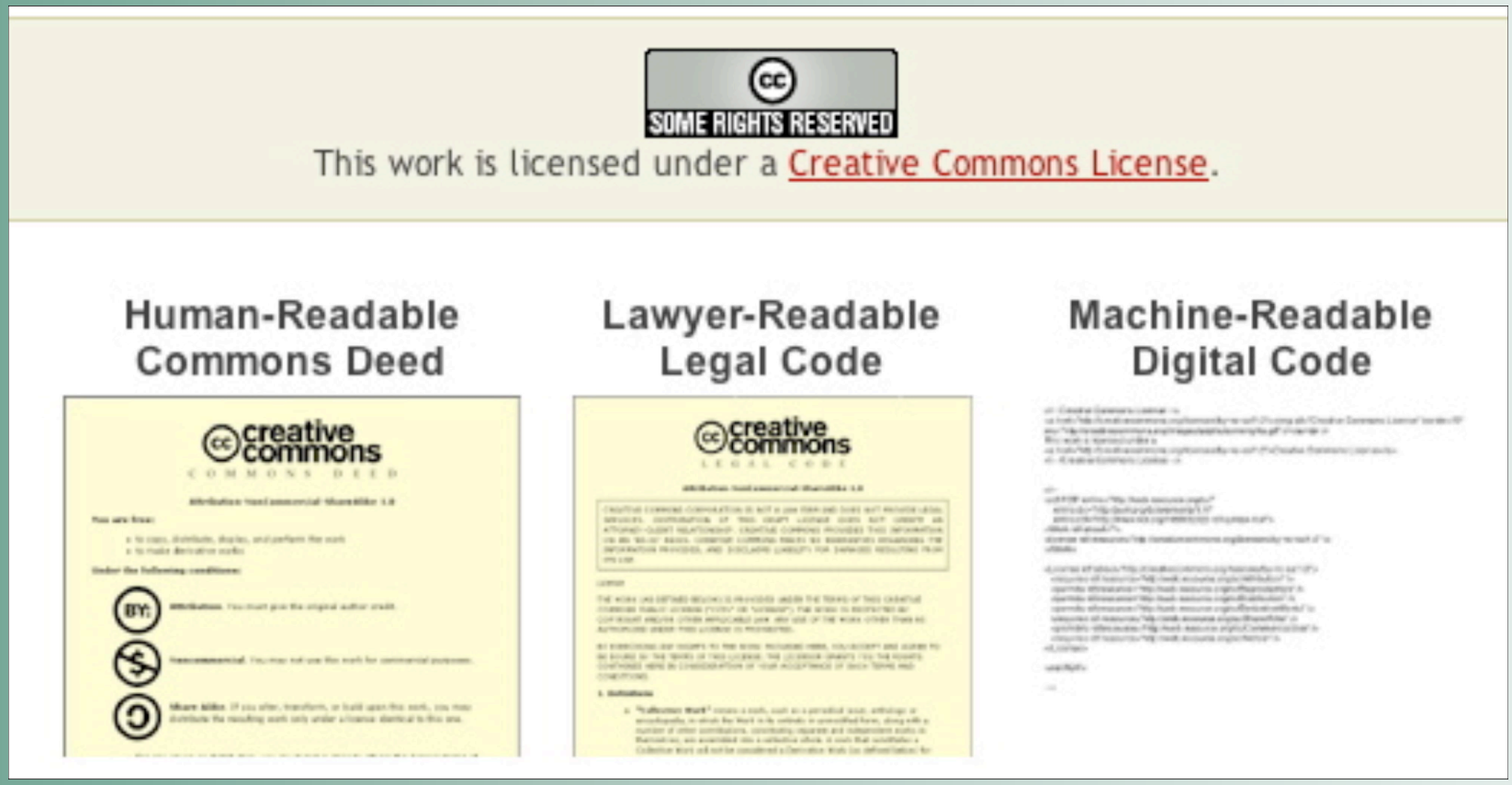

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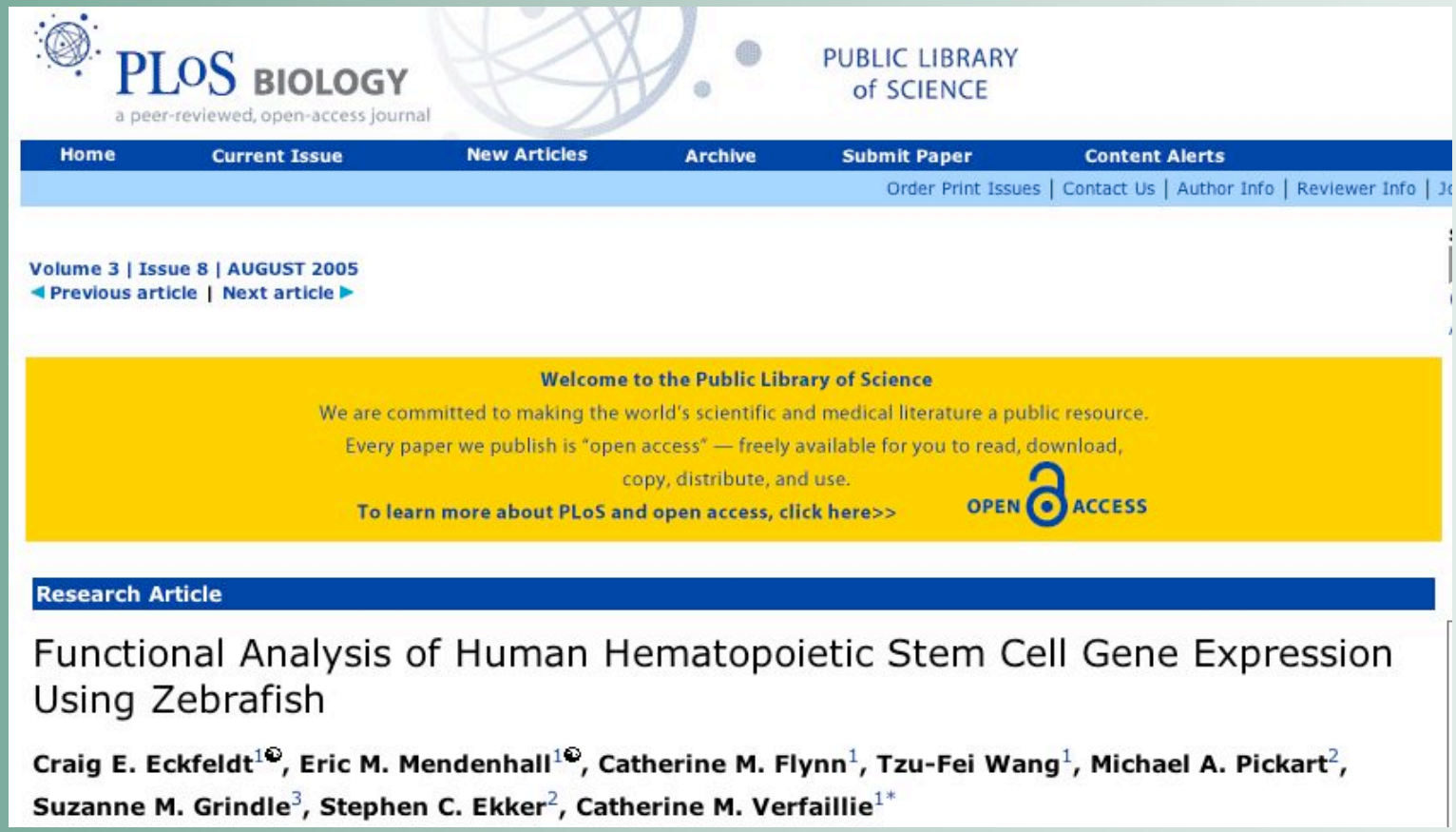

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Craig E. Eckfeldt[1], Eric M. Mendenhall[1], Catherine M. Flynn[1], Tzu-Fei Wang[1], Michael A. Pickart[2], Suzanne M. Grindle[3], Stephen C. Ekker[2], Catherine M. Verfaillie[1*]

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49. Thompson MA, Ransom DG, Pratt SJ, MacLennan H, Kieran MW (1998) The cloche and spadetail genes differentially affect hematopoiesis and vasculogenesis. Dev Biol 197: 248–269. Find this article online

50. Kim HJ, Bar-Sagi D (2004) Modulation of signalling by *Sprouty* A developing story. Nat Rev Mol Cell Biol 5: 441–450. Find this article online

51. Brekken RA, Sage EH (2001) SPARC, a matricellular protein: At the crossroads of cell-matrix communication. Matrix Biol 19: 816–827. Find this article online

52. Marin F, Charnay P (2000) Hindbrain patterning: FGFs regulate *Krox20* and *mafB/kr* expression in the otic/preotic region. Development 127: 4925–4935. Find this article online

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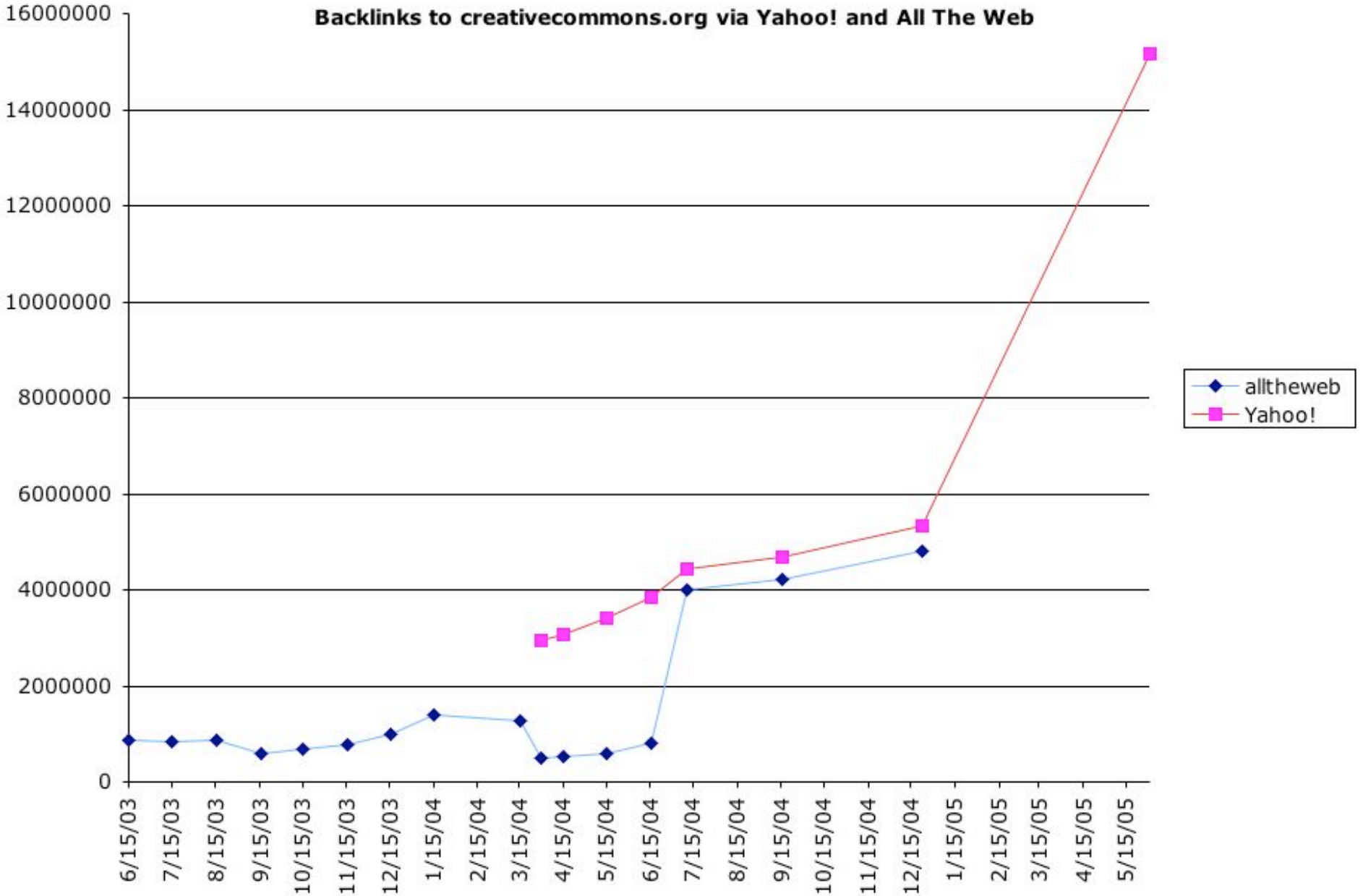

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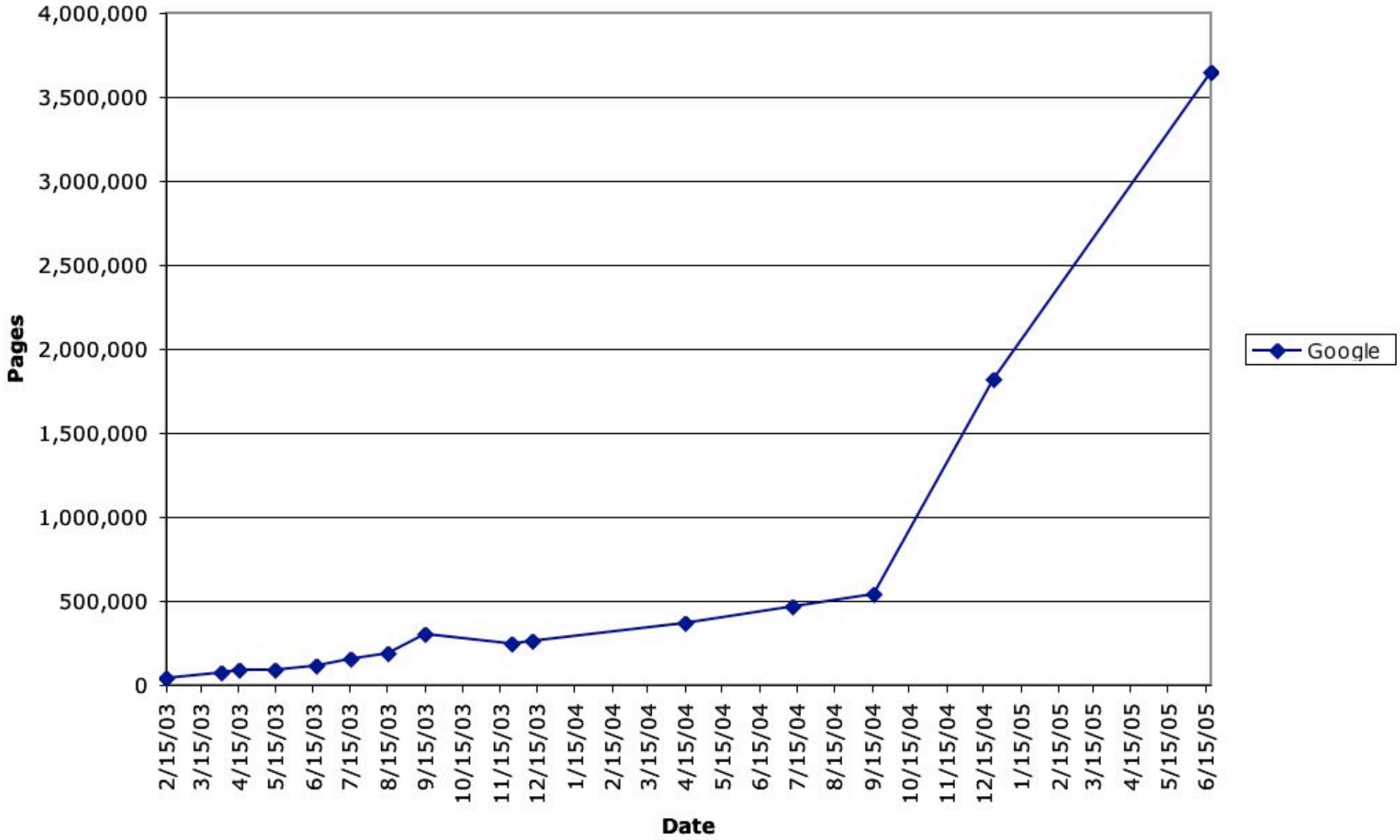

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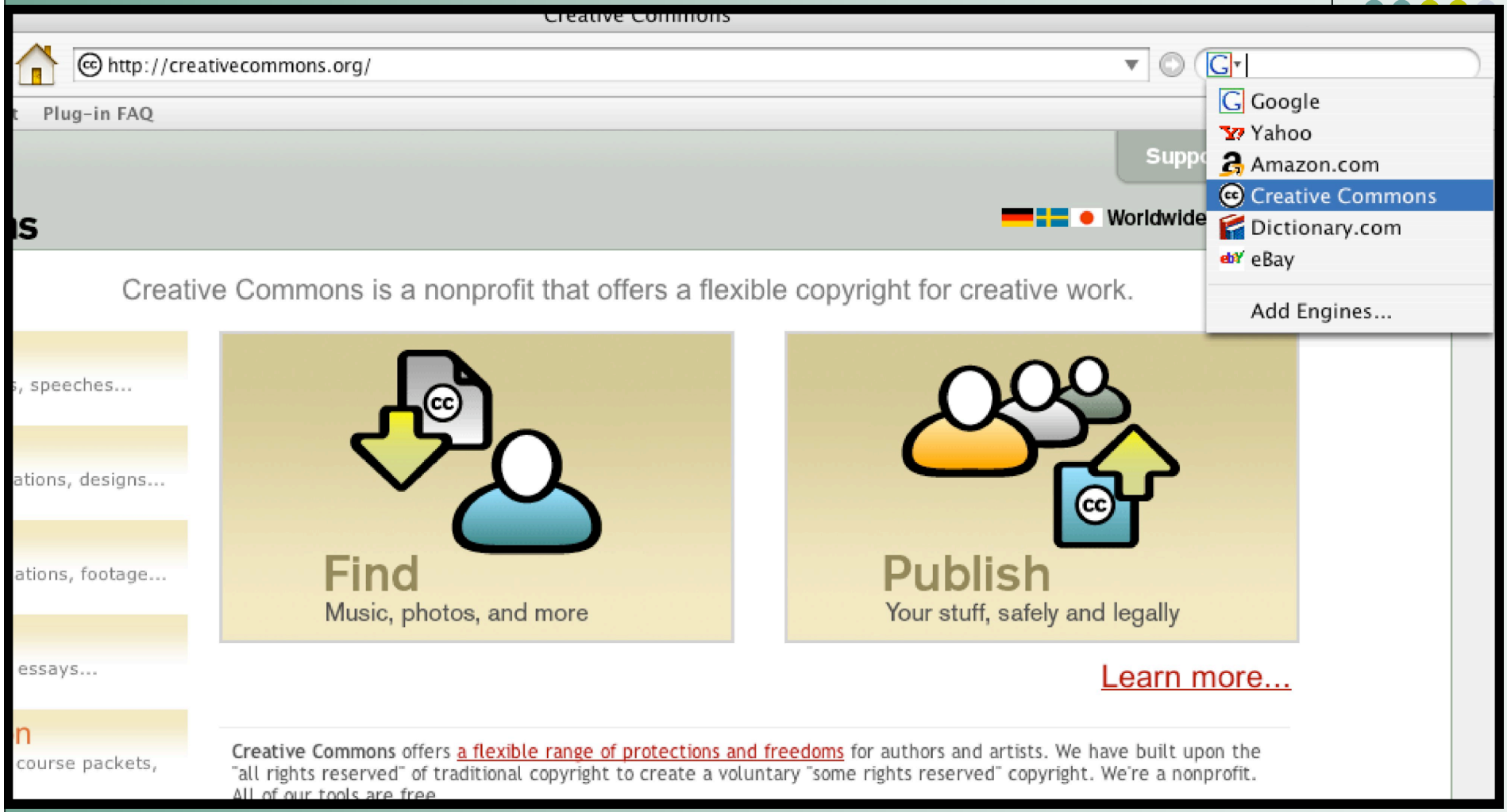

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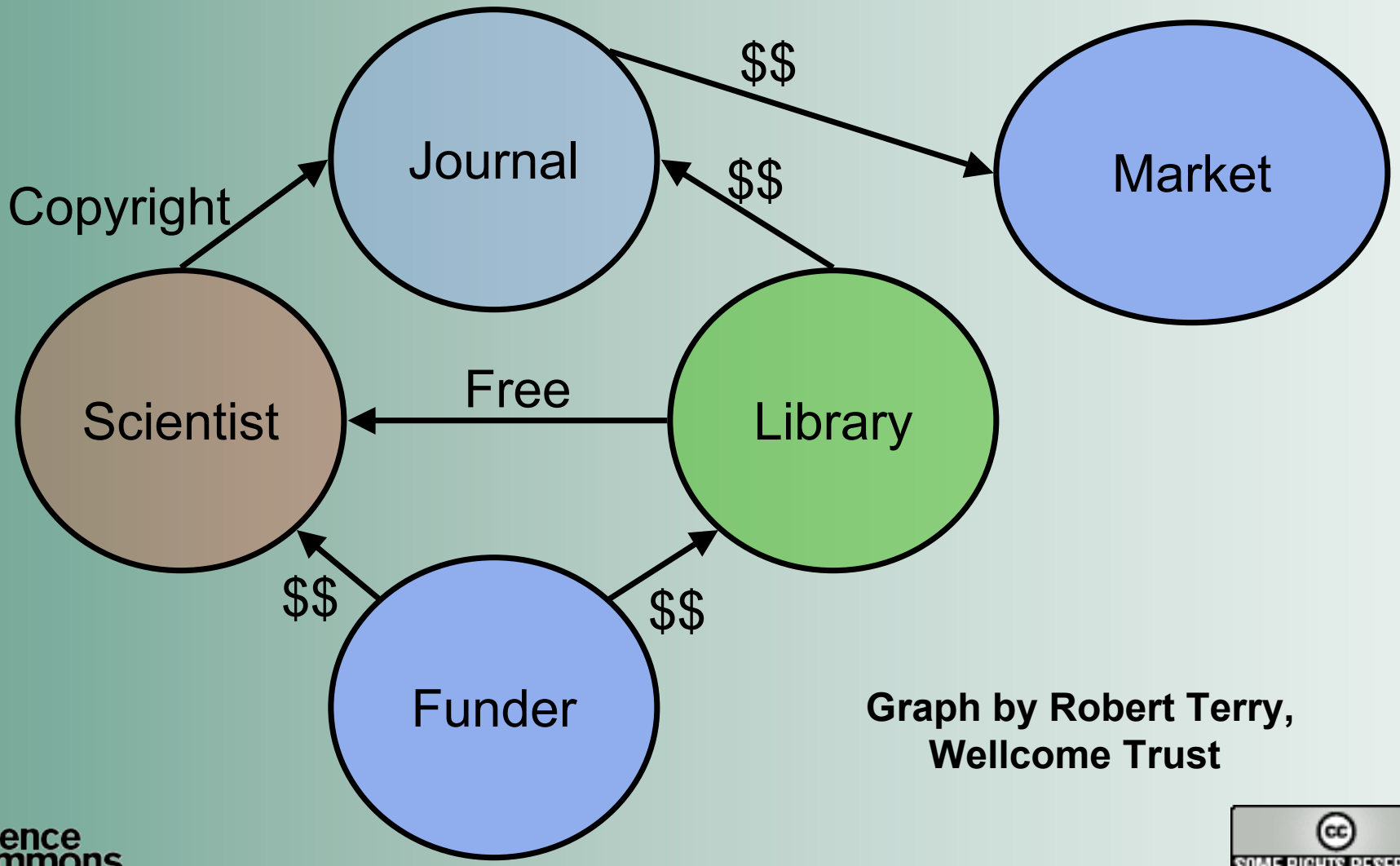
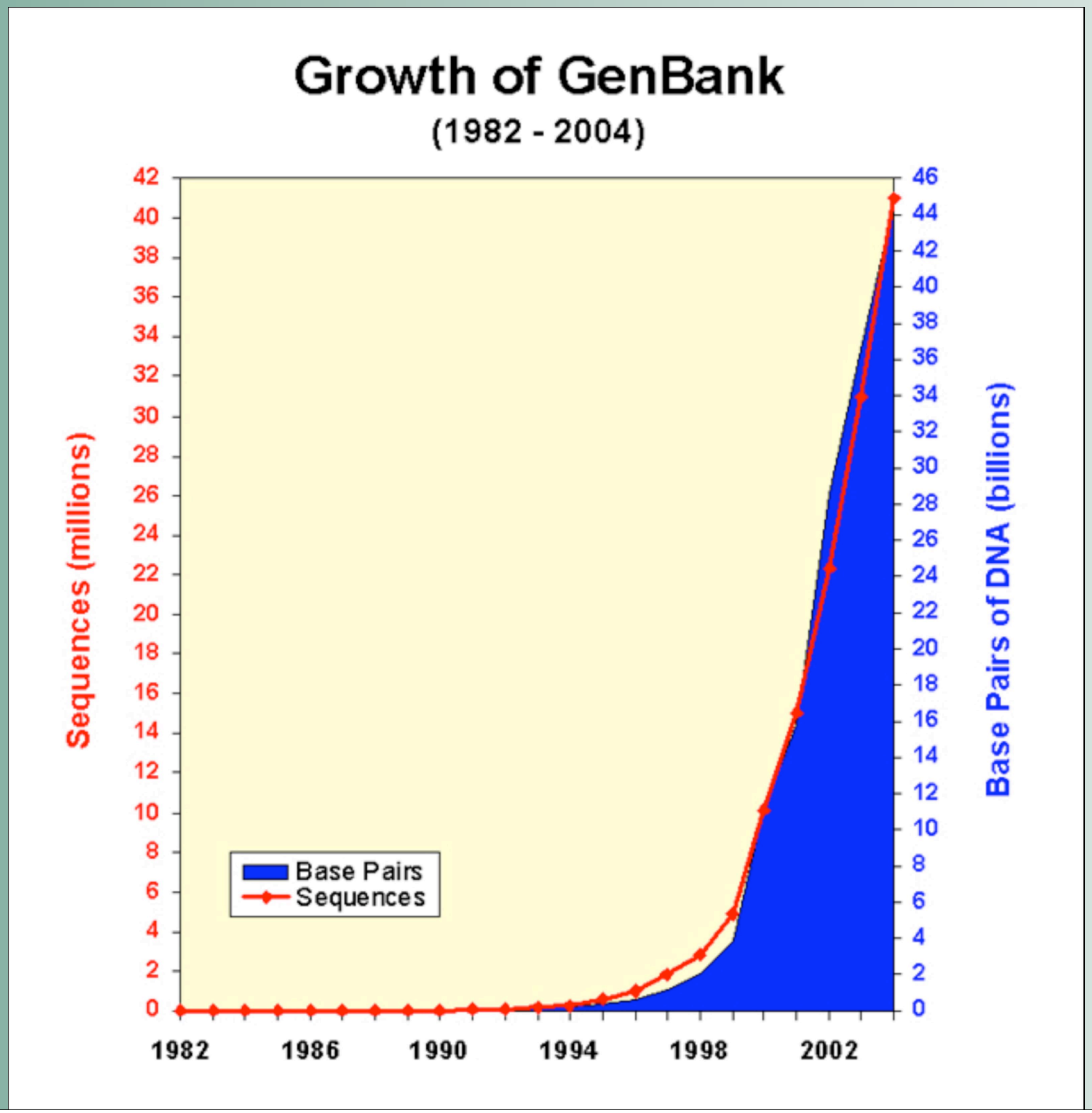


Graph by Robert Terry, Wellcome Trust

And so we judge standing

- …through citations in high impact journals
- …through citation indices
- …and thus scientists have incentive to give up their copyrights in order to gain citations

Norms under pressure



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Norms under pressure

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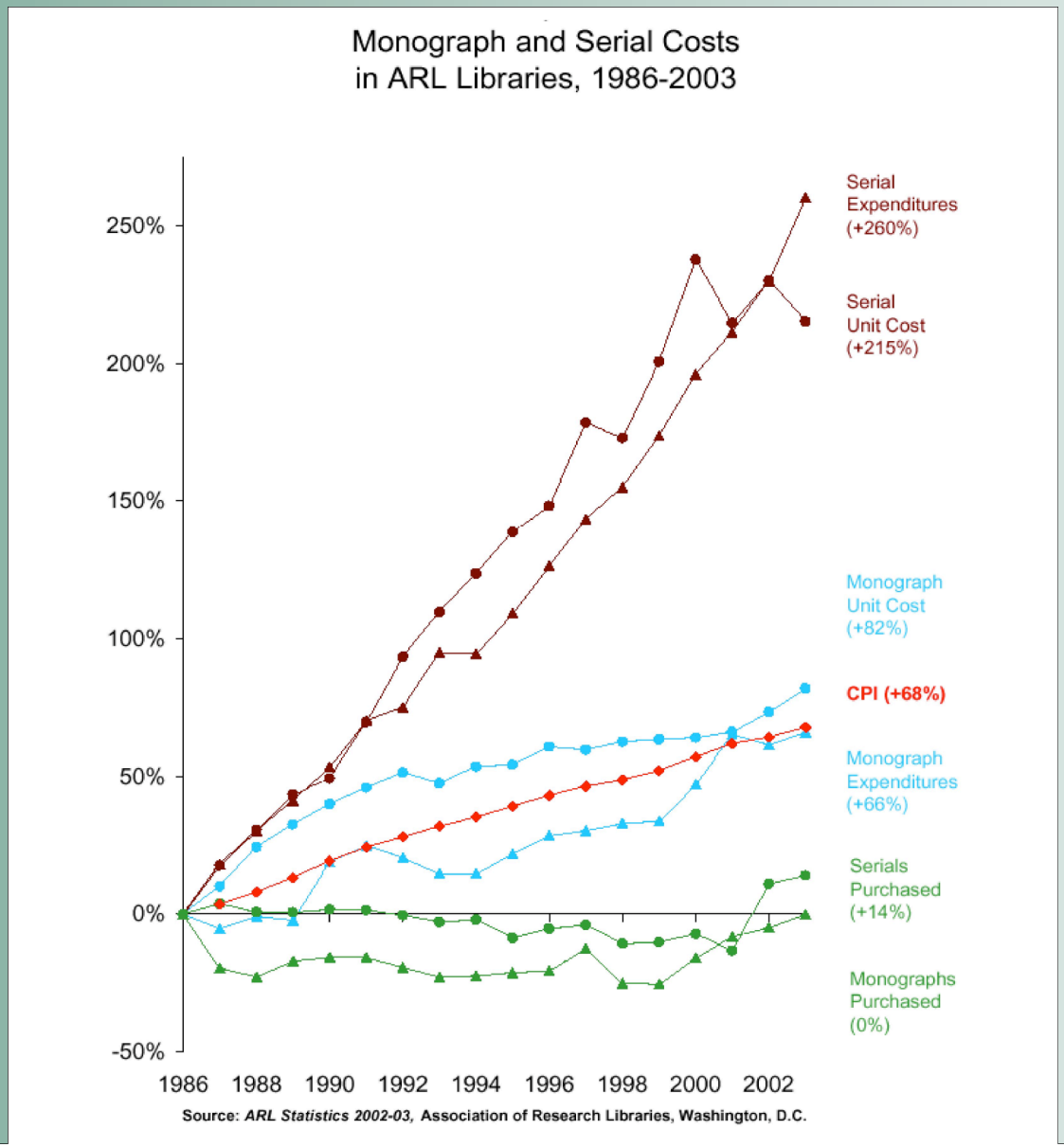
PubMed® Searches	677 Million	+35%	503 Million[1]	+32%	380 Million	+15%	330 Million[2]	+35%	244 Million	----

Norms Under Pressure



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nature

21 April 2005 Volume 434 Issue no 7036

Wanted: social entrepreneurs

Scientists-turned-entrepreneurs are resuscitating the research and development of drugs for neglected diseases. Researchers, administrators and funders should contribute their expertise to help these initiatives — or set up their own.

The all-embracing open-source encyclopedia Wikipedia doesn't have a dedicated page on kala-azar, or visceral leishmaniasis. But who cares? After all, the disease only transforms vast numbers of people in developing countries into walking skeletons carrying bellies bloated by an enlarging liver and spleen. With drugs costing up to US$200 a course, it often goes untreated, causing some 200,000 deaths each year. In the research and development (R&D) chains that lead to drugs, more attention is devoted to silicone breast implants and pills for erectile dysfunction than to the roughly 8,000 orphan diseases. These neglected diseases each touch up to just 2,000 people, but together they affect millions.

The root cause is that the markets for these diseases are too small to seriously interest the large pharmaceutical companies, which are involved in partnerships to address them but must also answer to their shareholders. What can be done to redress this balance by the many stakeholders along the route from research to product?

A round table on neglected diseases, co-organized by *Nature* at the BioVision World Life Sciences Forum in Lyon, France, last week, left a depressing sense of how far we have all got to go to seriously address neglected diseases — but also provided some encouraging sparks of enlightenment, and pointers to possible ways forward.

The meeting was held to celebrate the 50th anniversary of the approval of a polio vaccine. Polio is on the brink of being eradicated, something that would have been impossible without the March of Dimes, which courageously supported key basic research into the disease, and the Rotary Foundation, which got the vaccine into the field by raising more than $500 million and providing volunteers. They addressed critical bottlenecks, and won. As a result, most people reading this will be unaware that just a few decades ago, polio was a disease that every parent feared.

New leaders

A new generation of 'social entrepreneurs' are testing imaginative ways to tackle neglected diseases. One small step for Victoria Hale, for example, may be a giant leap for mankind: the founding of a San Francisco-based not-for-profit drug company, the Institute for OneWorld Health. At the Lyon meeting she told of clinical-trial results that could lead to a safe and effective cure for kala-azar for just $10 a course.

Instead of trying to develop a new drug from scratch, Hale started knocking on university and company doors, looking for drug leads Neglected Diseases Initiative, instigated by Doctors without Borders, for a host of other neglected diseases. As well as testing and reformulating existing drugs, such initiatives are bridging the abyss between research and clinical development by focusing on leads that would otherwise have remained in the lab for lack of an industry sponsor.

Another key bottleneck in the pipeline is preclinical research in animal models or cell cultures. Genomics has revealed the molecular basis of some 1,200 orphan diseases, as well as major ones such as malaria and tuberculosis, revealing new drug targets. This is opening up many orphan diseases to possible cures for the first time. If the molecular basis involves the expression of interleukin A, for example, then existing interleukin A inhibitors might make potential drugs. But the many drug analogues needed by academic researchers to test this plethora of emerging targets are found only in industry.

So French gene therapist and social entrepreneur Alain Fischer is trying to persuade companies to give researchers access to the wealth of relevant drugs they hold but have not developed. The fledgling European Rare Disease Therapeutic Initiative gives the company the right of first refusal to market a promising molecule for a neglected disease. If it declines, the researchers can take it to another company or funder to take it to the clinic.

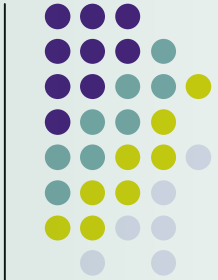
Persistence for change

The catch is that all these initiatives are relatively small. Funding is a big issue, but Hale is bullish. The money is out there, she says, provided that scientists, doctors and social entrepreneurs build awareness and argue their case. Robert Scott, who spearheads the Rotary campaign against polio, agrees, pointing out that governments, companies and research institutes change: someone who says 'no' today may say 'yes' tomorrow. Dogged persistence pays off.

Ironically, getting rights and molecules from universities is often harder than obtaining them from companies. University technology offices tend to patent aggressively, look no further than generating income, and often fail to include provisions beneficial to tackling orphan diseases in their licensing deals with companies. More scientists and their institutions should sign up to organizations such as the Centre for the Management of Intellectual Property in Health Research and Development, Biological Innovation for Open Society, and the Science Commons, which help academics to exploit their research and intellectual property for social ends.

The scale of the market failure in neglected-disease R&D is

Result: Scientific Divide



- Access to the scientific canon more and more expensive
  - Innovation becomes harder without significant resources
- Applies beyond publications: materials, data expensive to produce, maintain and transfer
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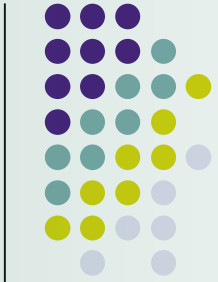

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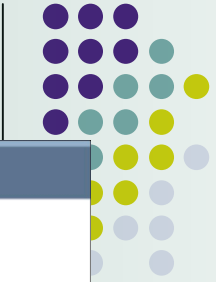

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Data Withholding in Academic Genetics

Evidence From a National Survey

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Context The free and open sharing of information, data, and materials regarding published research is vital to the replication of published results, the efficient advancement of science, and the education of students. Yet in daily practice, the ideal of free sharing is often breached.

Objective To understand the nature, extent, and consequences of data withholding in academic genetics.

Design, Setting, and Participants Mailed survey (March-July 2000) of geneticists and other life scientists in the 100 US universities that received the most funding from the National Institutes of Health in 1998. Of a potential 3000 respondents, 2893 were eligible and 1849 responded, yielding an overall response rate of 64%. We analyzed a subsample of 1240 self-identified geneticists and made a limited number of comparisons with 600 self-identified nongeneticists.

Main Outcome Measures Percentage of faculty who made requests for data that were denied; percentage of respondents who denied requests; influences on and consequences of withholding data; and changes over time in perceived willingness to share data.

Results Forty-seven percent of geneticists who asked other faculty for additional information, data, or materials regarding published research reported that at least 1 of their requests had been denied in the preceding 3 years. Ten percent of all postpublication requests for additional information were denied. Because they were denied access to data, 28% of geneticists reported that they had been unable to confirm published research. Twelve percent said that in the previous 3 years, they had denied another academician's request for data concerning published results. Among geneticists who said they had intentionally withheld data regarding their published work, 80% reported that it required too much effort to produce the materials or information; 64%, that they were protecting the ability of a graduate student, postdoctoral fellow, or junior faculty member to publish; and 53%, that they were protecting their own ability to publish. Thirty-five percent of geneticists said that sharing had decreased during the last decade; 14%, that sharing had increased. Geneticists were as likely as other life scientists to deny others' requests (odds ratio [OR], 1.39; 95% confidence interval [CI], 0.81-2.40) and to have their own requests denied (OR, 0.97; 95% CI, 0.69-1.40). However, other life scientists were less likely to report that withholding had a negative impact on their own research as well as their field of research.

Conclusions Data withholding occurs in academic genetics and it affects essential scientific activities such as the ability to confirm published results. Lack of resources and issues of scientific priority may play an important role in scientists' decisions to withhold data, materials, and information from other academic geneticists.

JAMA. 2002;287:473-480 www.jama.com

WITHOUT THE FREE exchange of published scientific information and resources, researchers may unknowingly build on something less than the total accumulation of scientific knowledge or work on problems already solved.[1] However, a number of instances of data withholding (defining data to include the full range of research results, techniques, and materials useful in future investigations and withholding as the failure to share such published data) have been reported.[2-7] A 1994-1995 survey of academic life scientists found that 34% of respondents were denied research results requested from a fellow university scientist in the previous 3 years, and 8.9% said they had denied a request from another university scientist for access to research results.[8]

Weinberg[9] asserts that secrecy is more common in genetics and particularly human genetics than in other areas. Reasons may include the increased scientific competitiveness of the field and the opportunities for com-

The Role of University Technology Transfer Operations in Assuring Access to Medicines and Vaccines in Developing Countries

Lita Nelsen*

Universities that attempt to use patents arising from academic research to make medical treatments available in developing countries are caught in a paradox of the patent system. Simply put, if all the medicines and vaccines needed in developing countries existed today, one would wish the patent system to disappear. The absence of patents on medicines and vaccines would presumably allow maximum competition and drive prices down, thereby maximizing affordability and availability.

In reality, adequate treatments and preventatives do not exist for many diseases common to the developing world. If one wishes to encourage industry to use its skills and resources in the discovery, development, testing, quality control, and distribution of new drugs and vaccines, patent protection may be necessary to provide the incentive for industrial participation. Few, if any, companies will start on the long trail of new drug discovery and development unless they can depend on patent protection from competition should a drug prove successful. Thus, we come to the conclusion that patents are neither inherently bad nor inherently good for this purpose. Like all tools, they must be used wisely.

Research institutions such as universities, medical schools, and other non-profits engaged in biological and medical research (collectively referred to as "universities" in this piece) have a special role to play in the use of patents for the development and distribution of drugs and vaccines for developing countries. These institutions are often the main source for the core technologies and lead compounds that are developed into drugs and vaccines. The primary ways in which universities disseminate their discoveries are through publication and the training of students. But since the passage of the Bayh-Dole Act in 1980,[1] U.S. research institutions have

* Lita Nelsen is the director of the Technology Licensing Office at the Massachusetts Institute of Technology.

1. Act of Dec. 12, 1980, Pub. L. No. 96-517, 94 Stat. 3015-3028 (codified as amended at

THE UNIFORM BIOLOGICAL MATERIAL TRANSFER AGREEMENT

(dated March 8, 1995)

I. Definitions:

1. **PROVIDER:** Organization providing the **ORIGINAL MATERIAL.** The name and address of this party will be specified in an implementing letter.

2. **PROVIDER SCIENTIST:** The name and address of this party will be specified in an implementing letter.

3. **RECIPIENT:** Organization receiving the **ORIGINAL MATERIAL.** The name and address of this party will be specified in an implementing letter.

4. **RECIPIENT SCIENTIST:** The name and address of this party will be specified in an implementing letter.

5. **ORIGINAL MATERIAL:** The description of the material being transferred will be specified in an implementing letter.

6. **MATERIAL:** **ORIGINAL MATERIAL, PROGENY,** and **UNMODIFIED DERIVATIVES.** The **MATERIAL** shall not include: (a) **MODIFICATIONS,** or (b) other substances created by the **RECIPIENT** through the use of the **MATERIAL** which are not **MODIFICATIONS, PROGENY,** or **UNMODIFIED DERIVATIVES.**

7. **PROGENY:** Unmodified descendant from the **MATERIAL,** such as virus from virus, cell from cell, or organism from organism.

8. **UNMODIFIED DERIVATIVES:** Substances created by the **RECIPIENT** which constitute an unmodified functional subunit or product expressed by the **ORIGINAL MATERIAL.** Some examples include: subclones of unmodified cell lines, purified or fractionated subsets of the **ORIGINAL MATERIAL,** proteins expressed by **DNA/RNA** supplied by the **PROVIDER,** or monoclonal antibodies secreted by a hybridoma cell line.

9. **MODIFICATIONS:** Substances created by the **RECIPIENT** which contain/incorporate the **MATERIAL.**

10. **COMMERCIAL PURPOSES:** The sale, lease, license, or other transfer of the **MATERIAL** or **MODIFICATIONS** to a for-profit organization. **COMMERCIAL PURPOSES** shall also include uses of the **MATERIAL** or **MODIFICATIONS** by any organization, including **RECIPIENT,** to perform contract research, to screen compound libraries, to produce or manufacture products for general sale, or to conduct research activities that result in any sale, lease, license, or transfer of the **MATERIAL** or **MODIFICATIONS** to a for-profit organization.

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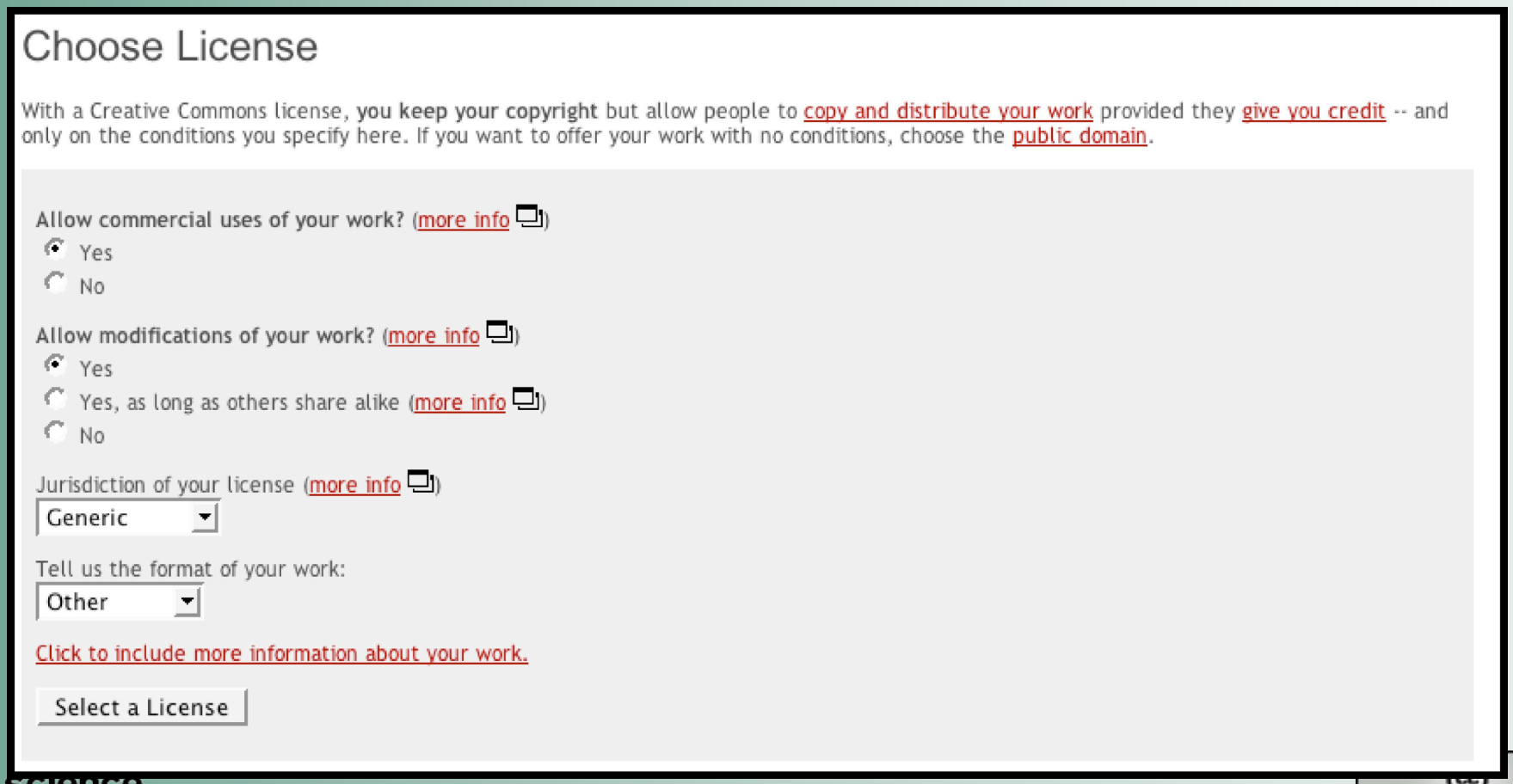

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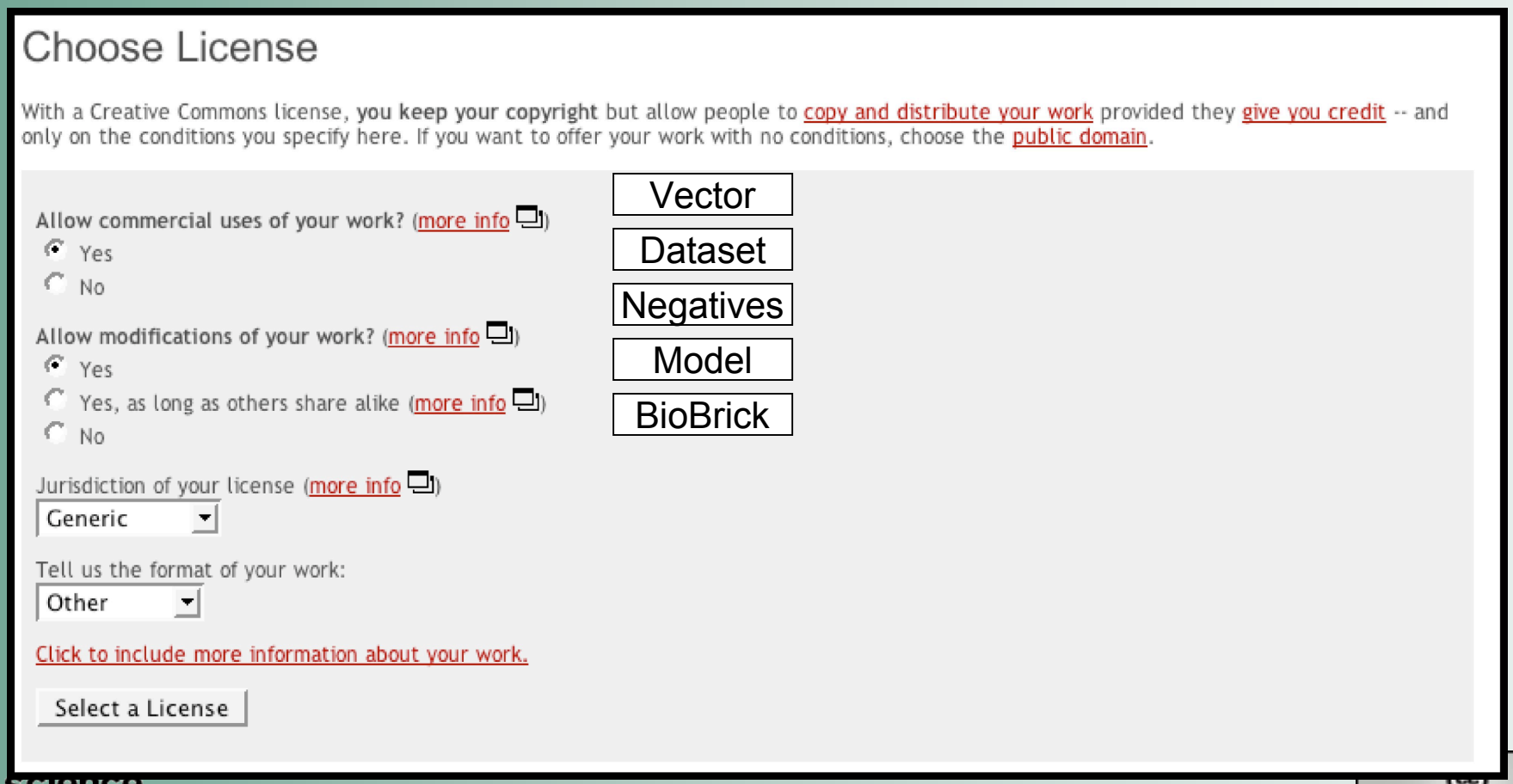
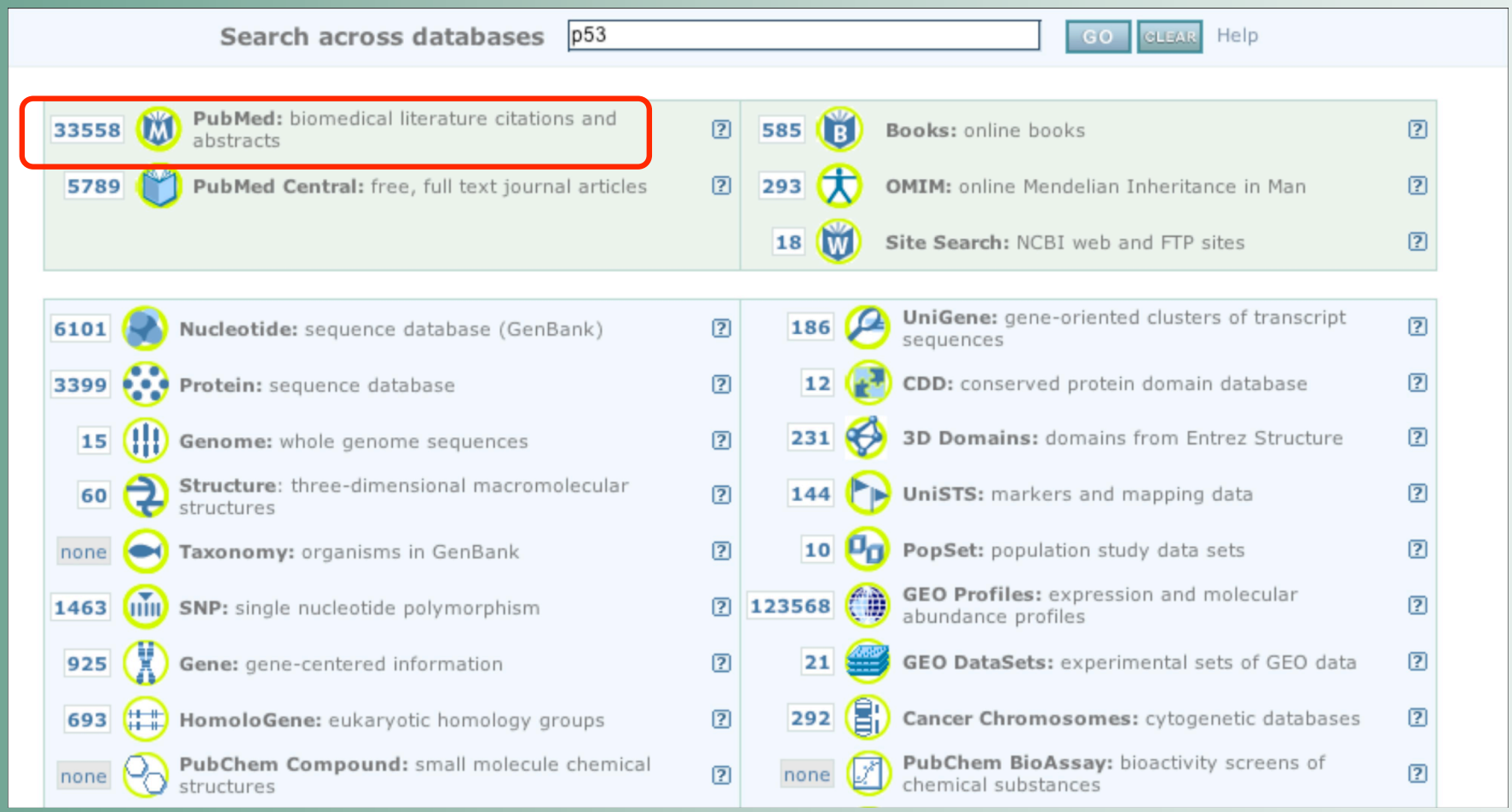


Standard contracts for DNA?

“emergent structures”



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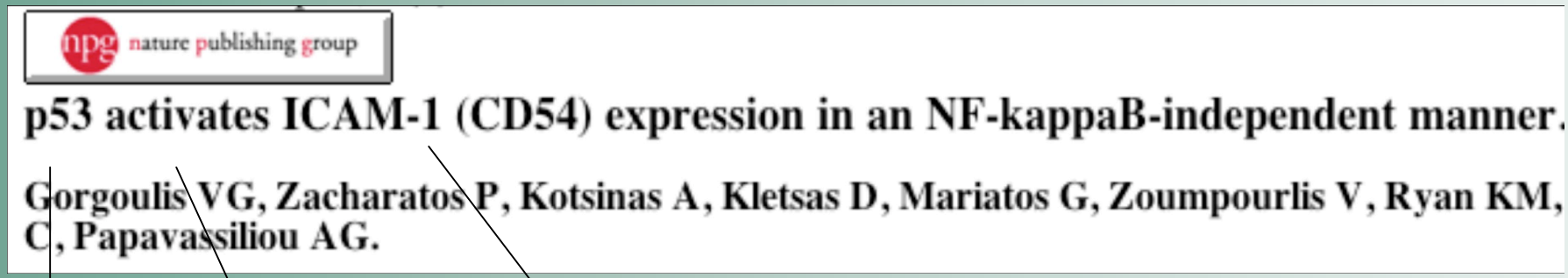


nature publishing group

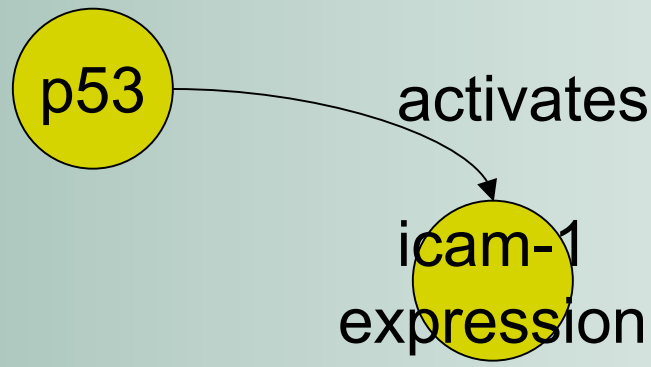
p53 activates ICAM-1 (CD54) expression in an NF-kappaB-independent manner.

Gorgoulis VG, Zacharatos P, Kotsinas A, Kletsas D, Mariatos G, Zoumpourlis V, Ryan KM, C, Papavassiliou AG.

<p53><activates><icam-1 expression>

“emergent structures”

<p53><activates><icam-1 expression>



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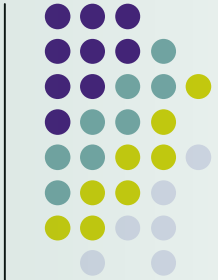

: Genes Dev. 1995 Sep 1;9(17):2143-56. Rel

The WT1 gene product stabilizes p53 and inhibits p53-mediated apoptosis.

Maheswaran S, Englert C, Bennett P, Heinrich G, Haber DA.

<WT1 GP><stabilizes><p53>

<WT1 GP> <inhibits><p53-mediated apoptosis>

“emergent structures”

<WT1 GP><stabilizes><p53>
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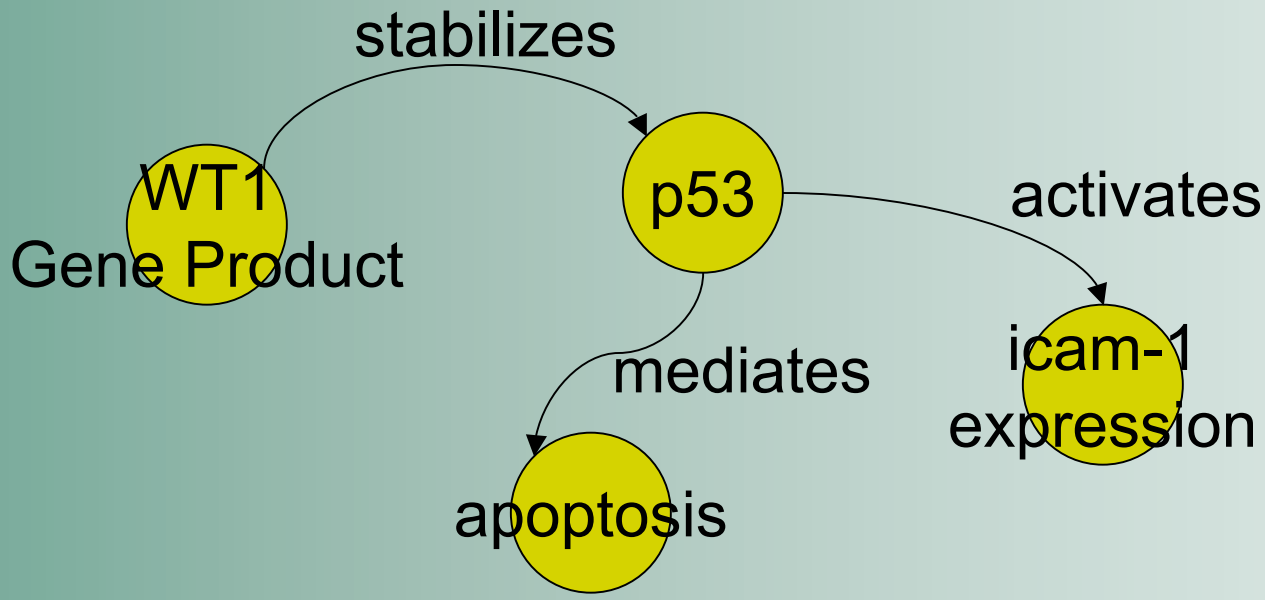

“emergent structures”

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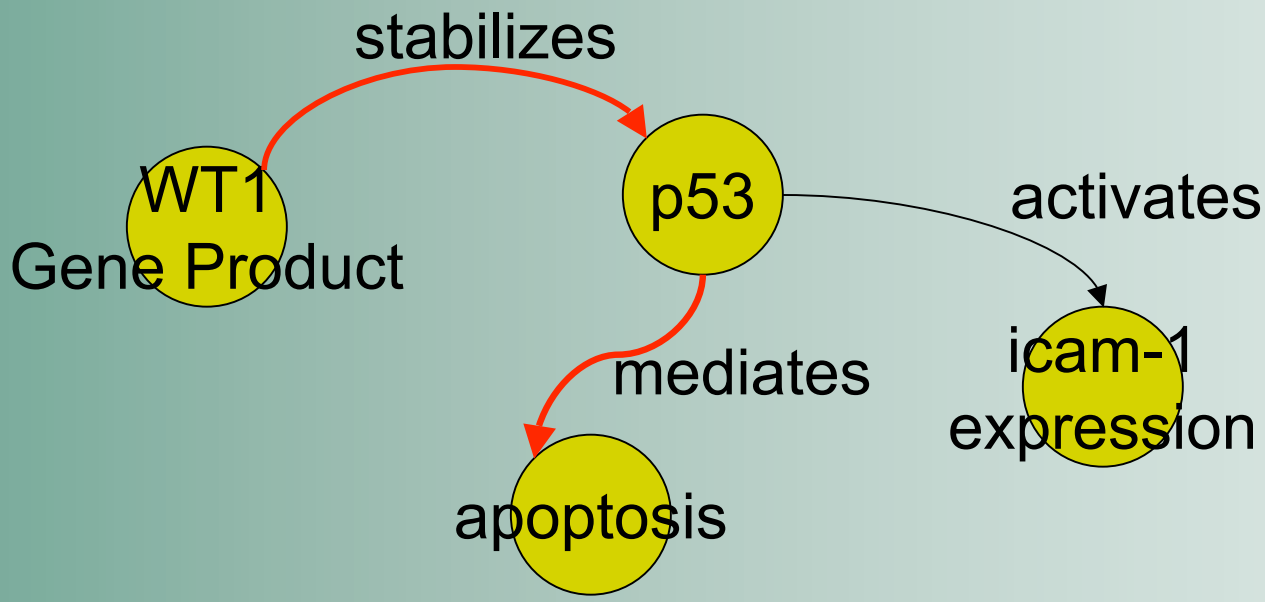
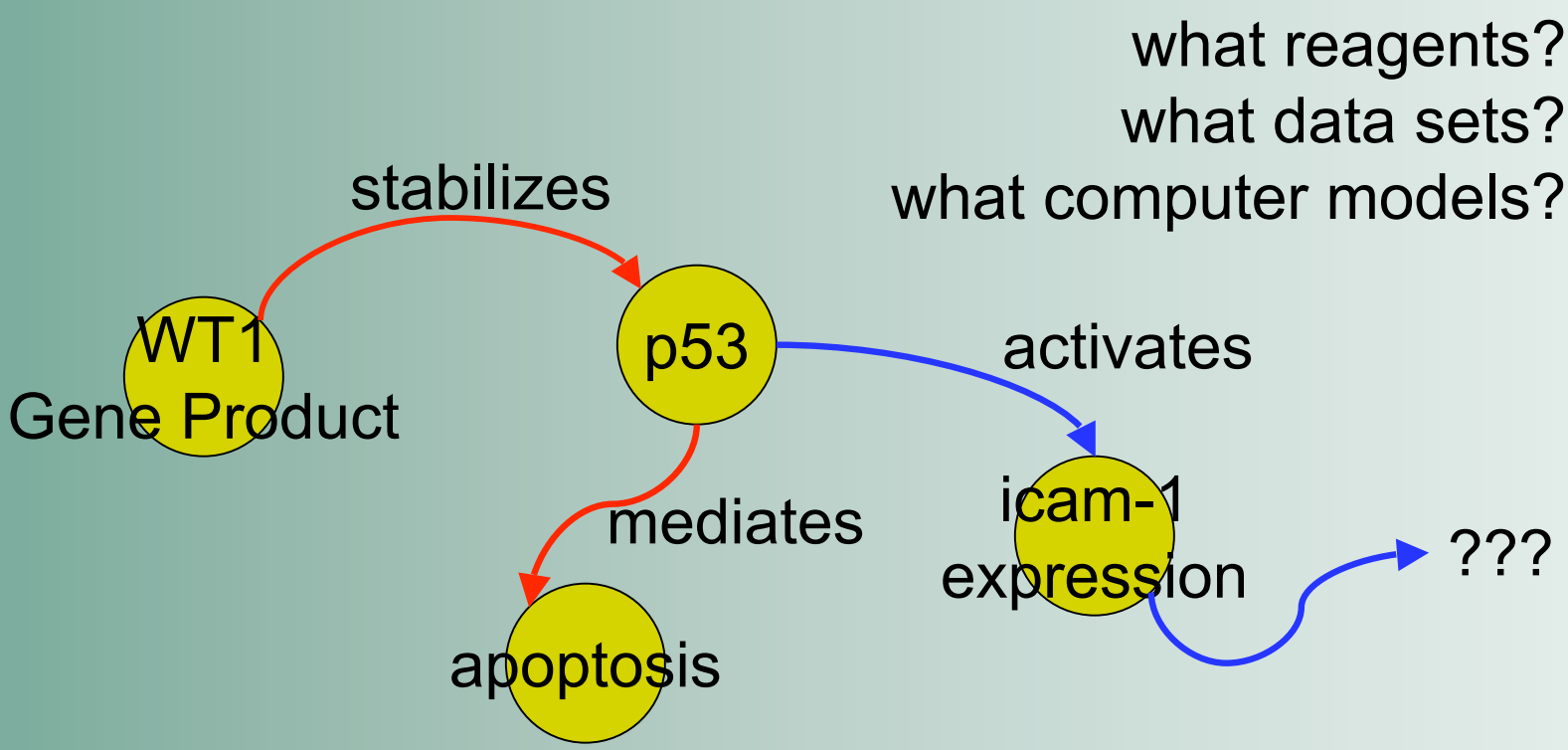
<p53><activates><icam-1 expression>



“emergent structures”



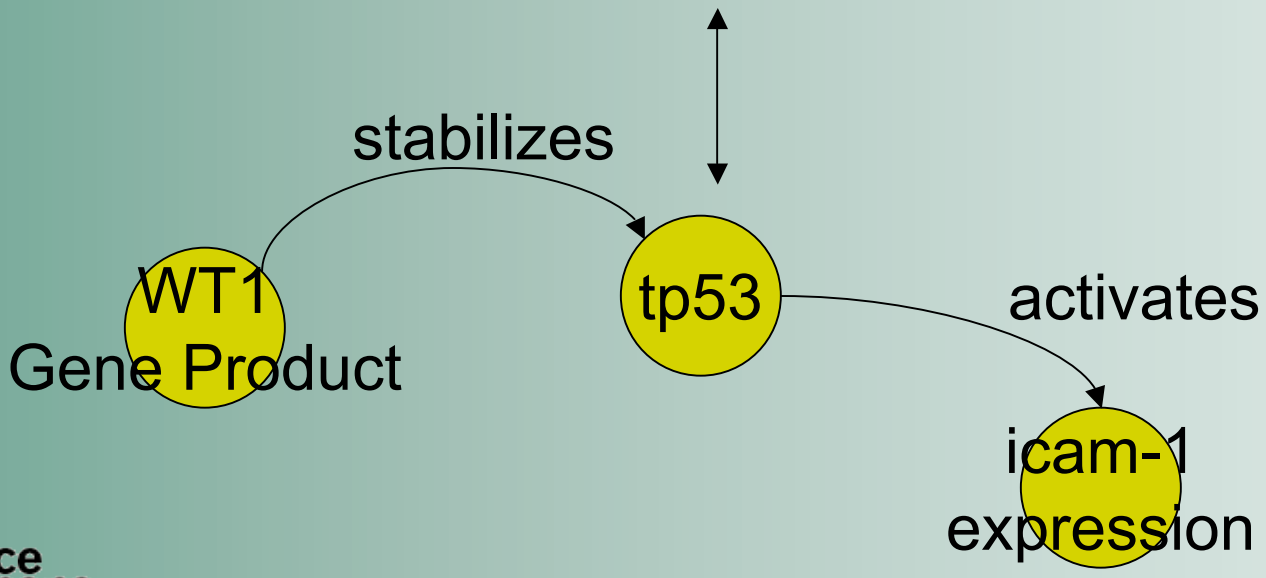
“emergent structures”

Connecting public data on ICAM-1
from http://ncbi.nlm.nih.gov

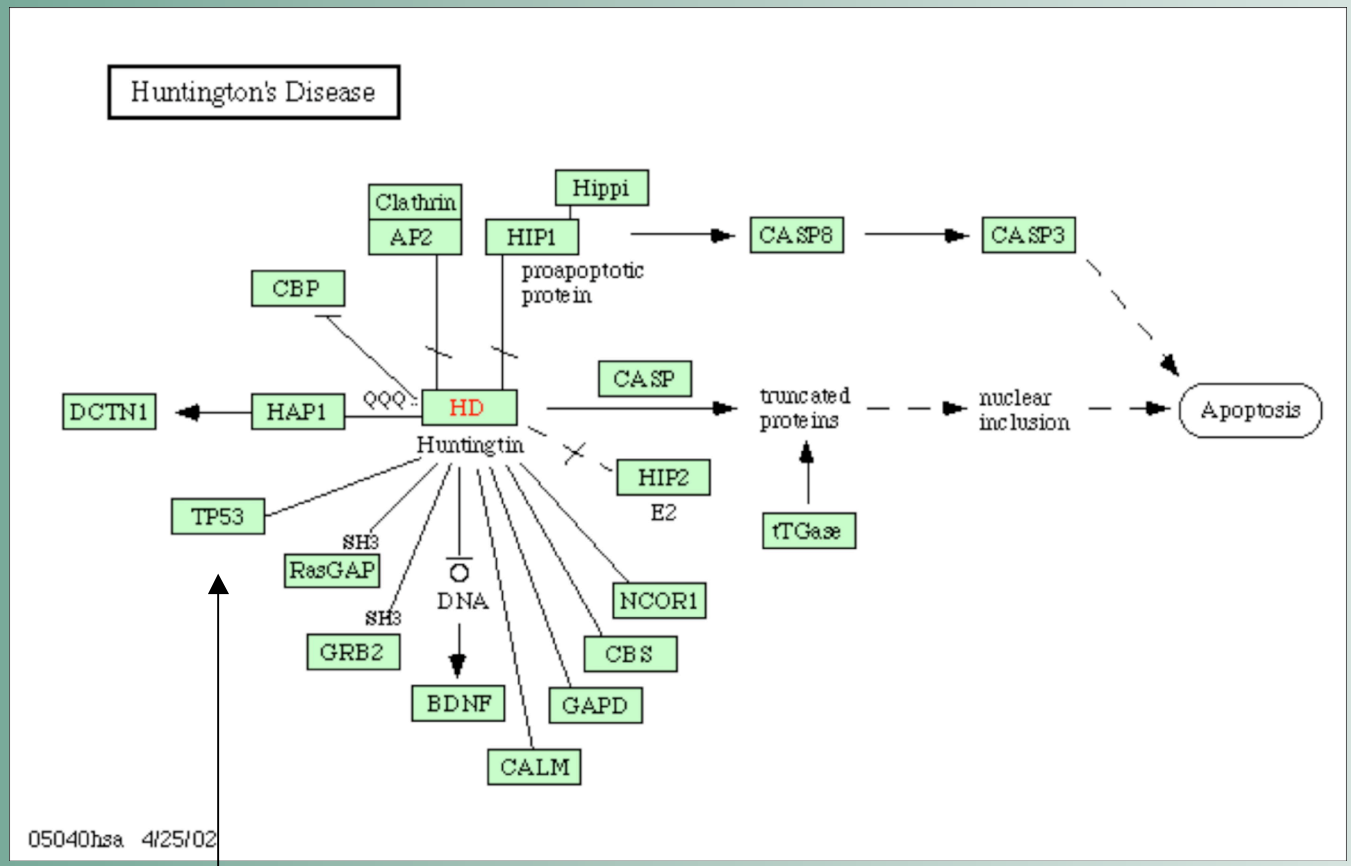
104. the expression of ICAM-1 might involve both p38 MAPK and NF-kappaB activities, whereas ICAM-3 expressions might be mediated through p38 MAPK but not NF-kappaB.
105. combined use of a vector driving the expression of OX40L with three other costimulatory mol enhances initial activation and then further potentiates sustained activation of nai;ve and effector T c
106. serum levels elevated in asthmatic patients during acute attack
107. that genetic polymorphisms of ICAM-1 might be clinically important in the development and p
108. AP-1 activation calcium-dependent, suggesting the central involvement of this transcription fac the ligation of ICAM-1.
109. Chlamydophila pneumoniae-induced ICAM-1 expression in HAECs requires NF-kappaB and PKC dependent
110. Circulating ICAM-1, IL-8, and MCP-1 in untreated obstructive sleep apnea were significantly reduce OSAS-induced hypoxia and generation of inflammatory mediators.
111. the potential associations of ICAM-1 gene polymorphisms with endometriosis and its severity
112. activation of expression by p53

“emergent structures”

Entry	7157 CDS H.sapiens
Gene name	TP53
Definition	tumor protein p53 (Li-Fraumeni syndrome)
KO	KO: K04451 tumor protein p53 OC search OC viewer
Pathway	PATH: hsa04010 MAPK signaling pathway PATH: hsa04110 Cell cycle PATH: hsa04210 Apoptosis PATH: hsa04310 Wnt signaling pathway PATH: hsa05030 Amyotrophic lateral sclerosis (ALS) PATH: hsa05040 Huntington's disease



Papers + Data



stabilizes

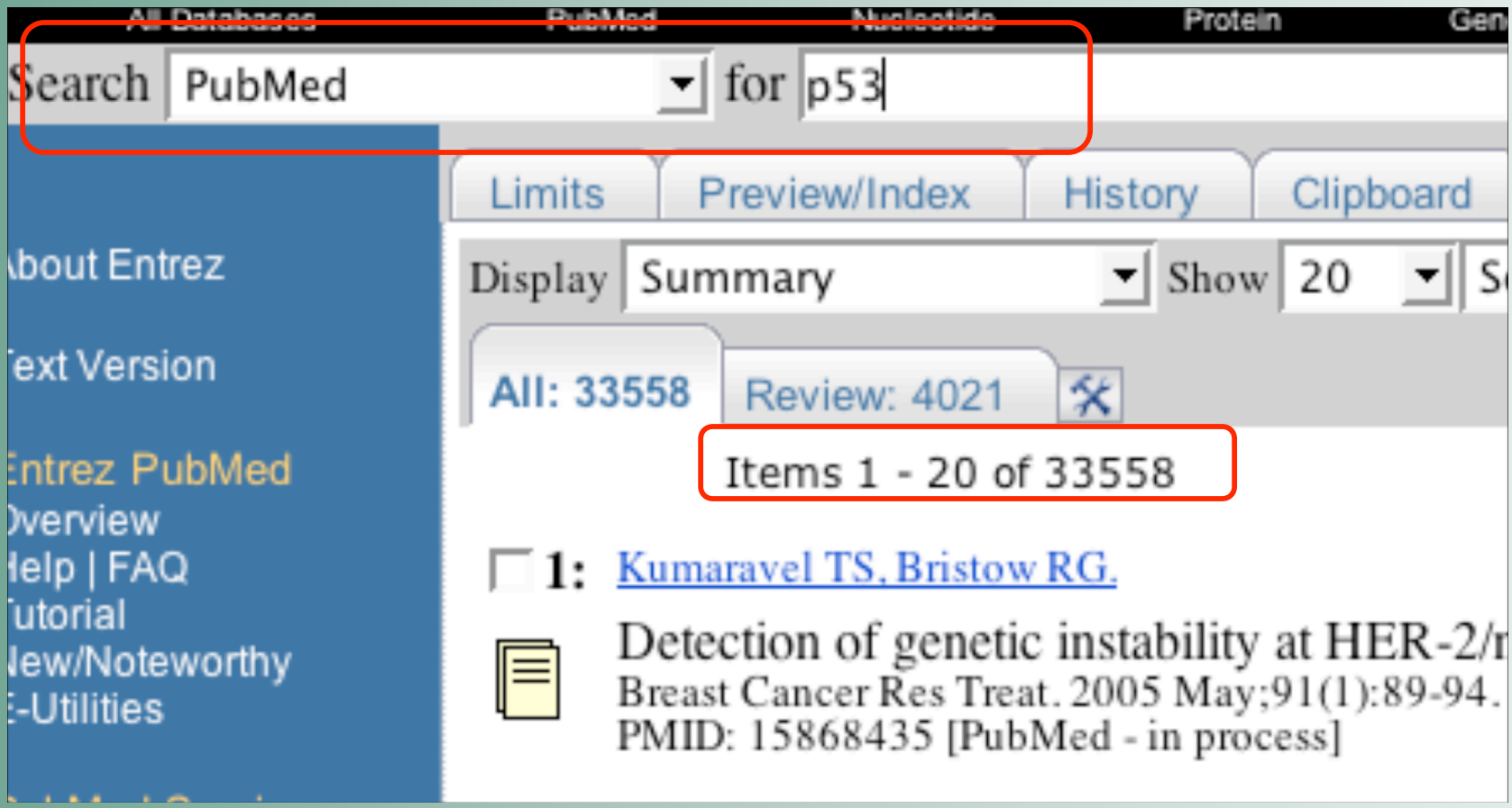
WT1 Gene Product

tp53

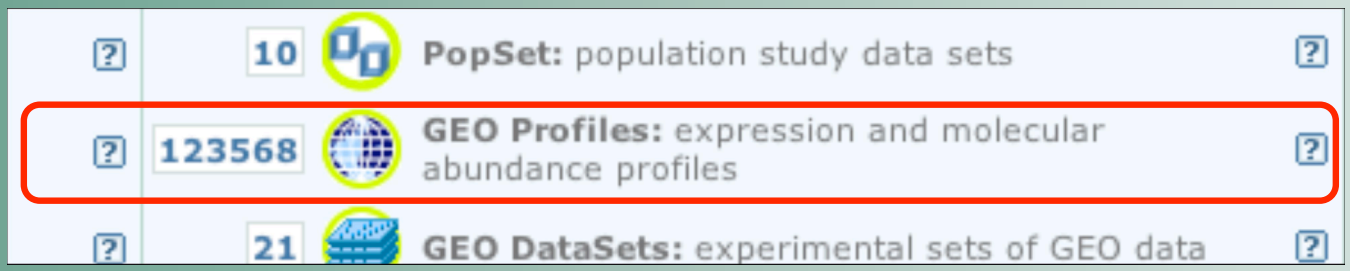
activates

icam-1 expression

Imagine how many graphs…

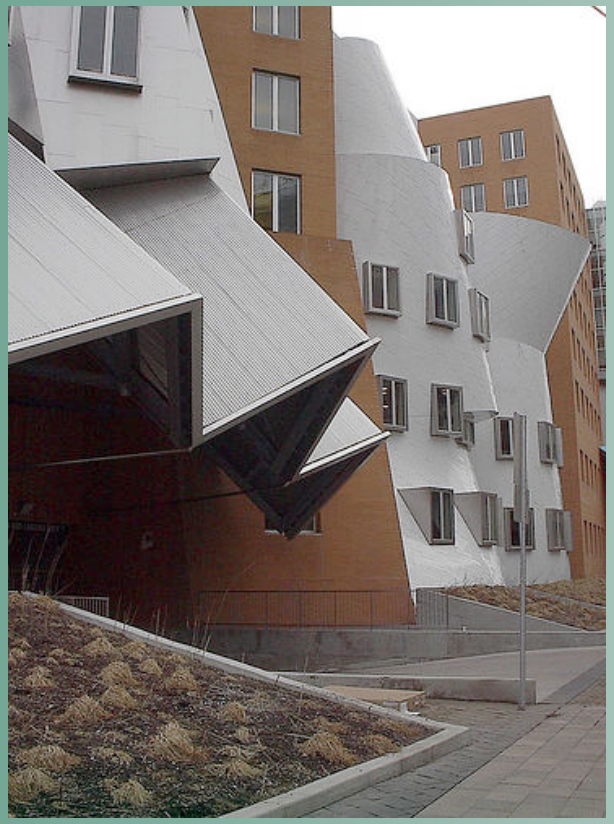


Imagine all the data…



"GEO: 30,000 submissions representing approximately ***half a billion individual molecular abundance measurements***, for over 100 organisms"

…unconnected to the canon of facts locked up by copyright…potentially locked up by patent…existing under multiple rights regimes…



Thanks to MIT, CSAIL, the Omidyar Network & the High Q Foundation

OMIDYAR NETWORK

HIGH Q FOUNDATION

ABOUT HIGH Q FOUNDATION, CHDI AND MRSSI

The **High Q Foundation, Inc.** is a private philanthropic foundation that was established in 2002 with the mission of bringing together academia, industry, governmental agencies, and other funding organizations in the search for **Huntington's disease (HD)** treatments. The Foundation supports numerous projects related to HD, including basic research, a drug-discovery program, and clinical studies.

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