



The NIH Public Access Policy

Neil Thakur, PhD
Office of Extramural Research
National Institutes of Health

<http://PublicAccess.nih.gov>



Introduction and Overview

- Public Access and NIH
- What is NIH?
- What is the Public Access Policy
- History: Voluntary v. Requirement
- How it works
- Feedback and Lessons Learned



NIH Mission

The 65-Year Mission of NIH

- Section 301 of the PHS Act –“The Secretary shall conduct in the Service and encourage, cooperate with, and render assistance to other appropriate public authorities, scientific institutions, and scientists in the conduct of, and promote the coordination of, research, investigations, experiments, demonstrations, and studies relating to the causes, diagnosis, treatment, control, and prevention of physical and mental diseases and impairments of man . . .”

The NIH is the primary Federal agency for conducting and supporting medical research.



NIH Funds and Conducts Biomedical Research



NIH is an institution
(Intramural Research)

~6,000 scientists
~10% of NIH budget



NIH supports institutions & people
(Extramural Research)

>3,000 institutions
>300,000 scientists & research personnel
~83% of the NIH budget



Open Access v. Public Access

Bethesda Statement on Open Access Publishing (April 2003):

- “The authors and copyright holders grant to all users a free, irrevocable, worldwide, perpetual right of access to, and a license to copy, use, distribute, transmit and display the work publicly and to make and distribute derivative works, in any digital medium for any responsible purpose, subject to proper attribution of authorship, as well as the right to make small numbers of printed copies for their personal use”
- A complete version of the work and all supplemental materials, including a copy of the permission as stated above, in a suitable standard electronic format is deposited immediately upon initial publication in at least one online repository that is supported by an academic institution, scholarly society, government agency, or other well-established organization that seeks to enable open access, unrestricted distribution, interoperability, and long-term archiving (for the biomedical sciences, PubMed Central is such a repository)

Public Access is NOT Open Access

- Articles collected via Public Access are copyrighted by publishers
- Are not made freely available to the public for up to 12 months
- Are accessed under fair use principles, like content at libraries



The Public Access Policy: Goals

ARCHIVE. Keep a central archive of NIH-funded research publications—for now and in the future, preserving vital biomedical research results and information for years to come.

ADVANCE SCIENCE. Create an information resource for scientists to mine, and for NIH to manage better its entire research investment.

ACCESS. Provide electronic access to NIH-funded research publications for patients, families, health professionals, scientists, teachers, students, and others.



The NIH Public Access Policy

- The Policy implements Division G, Title II, Section 218 of PL 110-161 (Consolidated Appropriations Act, 2008) which states:

The authors shall require that manuscripts submitted for publication to PubMed Central or have their final, peer-reviewed manuscripts upon acceptance for publication, to be made publicly available no later than 12 months after the official date of publication: Provided, That the NIH shall implement the public access policy in a manner consistent with copyright law.

- NIH Guide Notice NOT-OD-08-033
<http://grants.nih.gov/grants/guide/notice-files/NOT-OD-08-033.html>
- NIH Guide Notice NOT-OD-09-071 announces the policy is permanent, per the Consolidated Appropriations Act, 2009
<http://grants.nih.gov/grants/guide/notice-files/NOT-OD-09-071.html>



Definitions

- **PubMed Central (PMC):** PubMed Central (PMC) is the NIH digital archive of full-text, peer-reviewed journal papers. These papers are indexed with a PMID, a series of numbers preceded by 'PMC'. PMC content is publicly accessible and integrated with other databases (see: <http://www.pubmedcentral.nih.gov/>).
- **PubMed:** PubMed provides access to citations from biomedical literature. It includes over 17 million citations from MEDLINE and other life science journals for biomedical articles back to the 1950s, along with links to full text articles and other scientific resources. These citations are indexed with a PMID, a series of numbers.
- **Final peer-reviewed manuscript:** The author's final manuscript of a peer-reviewed article accepted for journal publication, including all modifications from the peer review process.
- **Final published article:** The journal's authoritative copy of the article, including all modifications from the publishing peer review process, copyediting and stylistic edits, and formatting changes.





Implications of a Successful NIH Public Access Policy

Easy access to published research funded by NIH will help advance science and improve human health.

- Meets the public's expectation that articles based on NIH-funded research are publicly available¹.
- NIH can monitor, mine, and develop its portfolio of taxpayer funded research more effectively.
- NIH-funded research becomes more prominent, integrated and accessible, making it easier for all scientists to pursue NIH's research priority areas competitively.

1. Harris Poll (2006) Most Americans back online access to federally funded research. Wall Street J Online Retrieved on July 20, 2006, from http://online.wsj.com/article_email/SB114893698047965609-1MyQjAxMDE2NDM4MTkzMzE2Wj.html.



Benefits of an Integrated Archive

Entrez PubMed
 Overview
 Help | FAQ
 Tutorials
 Newsletter
 E-letters

PubMed Services
 Journals Database
 MESH Database
 Single Citation Matcher
 Batch Citation Matcher
 Clinical Queries
 Special Queries
 LinkOut
 My NCBI

Related Resources
 Order Documents
 NLM Mobile
 NLM Catalog
 NLM Gateway
 TOXNET
 Consumer Health
 Clinical Alerts
 ClinicalTrials.gov
 PubMed Central

1: N Engl J Med. 1997 Mar 27;336(13):905-11.
 FREE full text article of content.nejm.org

Related Articles, Gene, OMM (calculated), OMM (cited), UNISTS
 Cited in PMC: Books, LinkOut

Comment in:
 • N Engl J Med. 1997 Jul 31;337(5):350.
 • N Engl J Med. 1997 Mar 27;336(13):950-2.

Use this link to see more recent papers in PMC that cite this one.

Identification of a genetic locus for familial atrial fibrillation.

Brugada R, Tapscott T, Czernuszewicz GZ, Marian AJ, Iglesias A, Mont L, Brugada J, Girona J, Domingo A, Bachinski LL, Roberts R.

Department of Cardiology, Baylor College of Medicine, Houston, TX 77030, USA.

BACKGROUND: Atrial fibrillation, the most common sustained cardiac-rhythm disturbance, affects over 2 million Americans and accounts for one third of all strokes in patients over 65 years of age. The molecular basis for atrial fibrillation is unknown, and palliative therapy is used to control the ventricular rate and prevent systemic emboli. We identified a family of 26 members of whom 10 had atrial fibrillation which segregated as an autosomal dominant disease. We subsequently identified two additional families in which the disease was linked to the same locus. METHODS: We screened the human genome with 300 polymorphic dinucleotide-repeat markers using an unconventional strategy of pooling the DNA samples into two groups (affected and unaffected), which reduced the sample size by approximately 90 percent, before performing linkage analysis to map the locus. This made it possible to identify potential loci within a few weeks. RESULTS: The lod scores for markers D10S569 and D10S807, located at 10q22-q24, were 3.60 in Family 1. The disease locus in Families 2 and 3 was also linked to the same markers, with lod scores of 6.02 and 5.38 for markers D10S650 and D10S607 respectively, which were located 1.5 Mb from the D10S569-D10S807 region. The same region in families shows centimorgans. We conclude that the identification of a genetic locus for atrial fibrillation by this strategy of pooling DNA samples for linkage analysis is more time and cost effective than conventional linkage analysis.

Use the ID of the marker of highest linkage to get a quick look at the genomic region in MapViewer

PMID: 9070470 [PubMed - indexed for MEDLINE]



Benefits of an Integrated Archive

1 PubMed Search Results

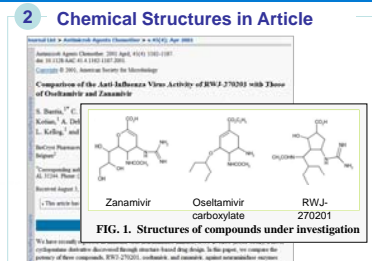
Search PubMed for anti-influenza treatment prevention

All 177 (showing 1-25)

1-46: Banta S, Parker CD, Ananth S, Horn L, Andros T, Chand D, Estan P, Chughra A, Bhatnagar V, Lin T, Hutchins T, Montgomery S, Balak DA, Balak SS.

Comparison of the anti-influenza virus activity of RWJ 270201 with those of oseltamivir and zanamivir.

Antimicrob Agents Chemother. 2001 Apr;45(4):1162-7. PMID: 11257030 [PubMed - indexed for MEDLINE]

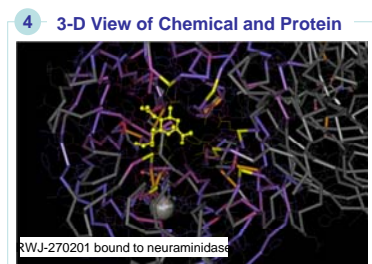


3 Compound in PubChem

RWJ-270201
 Compound Summary:

Chemical structure of RWJ-270201

- PubChem: 14 Links
- PubMed: 14 Links
- Protein Structures: 3 Links
- NLM Toxicology: 1 Link
- Related Compounds: 1 Link
- Similar Compounds: 3 Links
- Structure Search: 1 Link



Copyright Issues

- The NIH Policy explicitly recognizes and upholds the principles of copyright
- Authors and journals can continue to assert copyright in NIH-funded scientific publications, in accordance with current practice
- The Policy has no effect on the author's choice of journal
- Publishers have adopted different positions toward the Policy
- Since the May 2005, many publishers have amended copyright transfer agreements to obtain copyrights of Author manuscripts



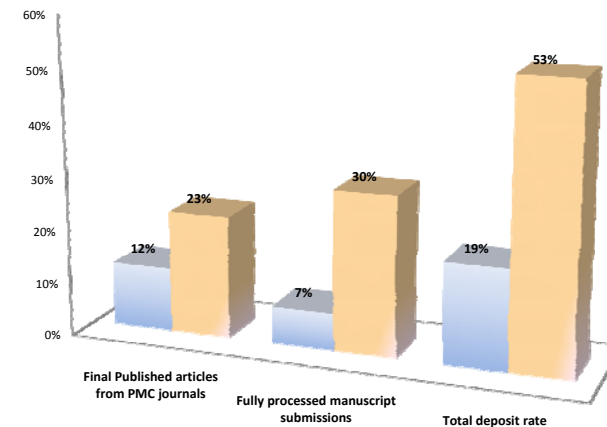


Policy History Since 2004

- 2004: NIH engaged in public discussion on a Public Access Policy
- May 2005- March 2008: The NIH Public Access Policy was a *Voluntary* request of its awardees. It collected less than 20% of targeted papers
- April 2008: The NIH Public Access Policy becomes a Requirement for all NIH awardees



Current Collection Rates



The NIH Public Access Policy Applies to Any Final Manuscript That...

- Is peer-reviewed;
- And, is accepted for publication in a journal on or after April 7, 2008;
- And, arises from:
 - Any direct funding from an NIH grant or cooperative agreement active in Fiscal Year 2008 or beyond, or;
 - Any direct funding from an NIH contract signed on or after April 7, 2008, or;
 - Any direct funding from the NIH Intramural Program, or;
 - An NIH employee.



How Awardees Comply

- **Address Copyright**
 - Institutions and investigators are responsible for ensuring full compliance with the Public Access Policy (e.g., that any publishing or copyright agreements are consistent with submitting to PMC).
- **Deposit Paper Upon Acceptance for Publication**
- **Cite Article**
 - **Include the PMC number (PMCID)** for applicable papers in applications, proposals and reports, as described at http://publicaccess.nih.gov/citation_methods.htm.





Address Copyright

Before an author signs a publication agreement or similar copyright transfer agreement, make sure that the agreement allows the final peer-reviewed manuscript to be submitted to NIH in accordance with the Public Access Policy.

Points to consider

- What submission method will be used?
- What version of the paper will be made available on PMC?
- Who will submit the paper?
- When will it be submitted?
- Who will approve the submission?
- When can the paper be made public on PMC?



How to Submit Manuscripts

- **Four different submission methods have emerged, which vary in:**
 - Version posted
 - Use of the NIH Manuscript Submission System (NIHMS)
 - Role of Publishers
 - Role of Authors
 - Participating Journals
- **Authors may use whichever method is most appropriate for them and consistent with their publishing agreement.**



Overview of Submission Methods

	Method A	Method B	Method C	Method D
Version of Paper Submitted	Final Published Article	Final Published Article	Final Peer-Reviewed Manuscript	Final Peer-Reviewed Manuscript



Overview of Submission Methods

	Method A	Method B	Method C	Method D
Version of Paper Submitted	Final Published Article	Final Published Article	Final Peer-Reviewed Manuscript	Final Peer-Reviewed Manuscript
Task 1: Who deposits the paper?	Publisher direct to PMC	Publisher direct to PMC	Author or designee, via NIHMS	Publisher, via NIHMS





Overview of Submission Methods

	Method A	Method B	Method C	Method D
Version of Paper Submitted	Final Published Article	Final Published Article	Final Peer-Reviewed Manuscript	Final Peer-Reviewed Manuscript
Task 1: Who deposits the paper?	Publisher direct to PMC	Publisher direct to PMC	Author or designee, via NIHMS	Publisher, via NIHMS
Task 2: Who approves paper for processing?	Not Applicable	Not Applicable	Author, via NIHMS	Author, via NIHMS



Overview of Submission Methods

	Method A	Method B	Method C	Method D
Version of Paper Submitted	Final Published Article	Final Published Article	Final Peer-Reviewed Manuscript	Final Peer-Reviewed Manuscript
Task 1: Who deposits the paper?	Publisher direct to PMC	Publisher direct to PMC	Author or designee, via NIHMS	Publisher, via NIHMS
Task 2: Who approves paper for processing?	Not Applicable	Not Applicable	Author, via NIHMS	Author, via NIHMS
Task 3: Who approves paper for Pub Med Central display?	Not Applicable	Not Applicable	Author, via NIHMS	Author, via NIHMS



Overview of Submission Methods

	Method A	Method B	Method C	Method D
Version of Paper Submitted	Final Published Article	Final Published Article	Final Peer-Reviewed Manuscript	Final Peer-Reviewed Manuscript
Task 1: Who deposits the paper?	Publisher direct to PMC	Publisher direct to PMC	Author or designee, via NIHMS	Publisher, via NIHMS
Task 2: Who approves paper for processing?	Not Applicable	Not Applicable	Author, via NIHMS	Author, via NIHMS
Task 3: Who approves paper for Pub Med Central display?	Not Applicable	Not Applicable	Author, via NIHMS	Author, via NIHMS
Participating journal/publisher	Method A Journals	Make arrangements with these publishers	Check publishing agreement	Check publishing agreement



Cite Articles Using PMC Numbers (PMCID)

• Cite Paper

- When citing a paper in NIH applications, proposals, and progress reports, include the PMCID at the end of the full citation.
- This requirement only applies to papers that fall under the Policy and are authored or co-authored by you or arose from your NIH award.
- For more information see http://publicaccess.nih.gov/citation_methods.htm.

Example

Varmus H, Klausner R, Zerhouni E, Acharya T, Daar A, Singer P. 2003. PUBLIC HEALTH: Grand Challenges in Global Health. Science 302(5644): 398–399. **PMCID: PMC243493**





- About the Public Access Policy:
 - <http://publicaccess.nih.gov/>
 - NIH Guide Notice for Public Access (January 2008): <http://grants.nih.gov/grants/guide/notice-files/NOT-OD-08-033.html>
 - New Guide Notice for Grantee Compliance (September 2008): <http://grants.nih.gov/grants/guide/notice-files/NOT-OD-08-119.html>
 - Questions: PublicAccess@NIH.GOV
- The NIH Manuscript Submission System
 - <http://www.nihms.nih.gov/>
 - Tutorials: <http://www.nihms.nih.gov/web-help/>
- PubMed Central:
 - <http://www.pubmedcentral.nih.gov/>
 - PMC Demo: <http://www.ncbi.nlm.nih.gov/Education/pmc/>



- For Method A and B Journals, use “**PMC Journal - In Process**”.
 - Example: Sala-Torra O, Gundacker HM, Stirewalt DL, Ladne PA, Pogossova-Agadjanyan EL, Slovák ML, Willman CL, Heimfeld S, Boldt DH, Radich JP. Connective tissue growth factor (CTGF) expression and outcome in adult patients with acute lymphoblastic leukemia. *Blood*. 2007 April 1; 109(7): 3080-3083. (PMCID: PMC Journal - In Process)
- For Method C and D Journals, use the **NIHMSID**.
 - Example: Cerrato A, Parisi M, Santa Anna S, Missirilis F, Guru S, Agarwal S, Sturgill D, Talbot T, Spiegel A, Collins F, Chandrasekharappa S, Marx S, Oliver B. Genetic interactions between *Drosophila melanogaster* menin and Jun/Fos. *Dev Biol*. 2006 Oct 1; 298(1): 59-70. (NIHMSID: NIHMS44135)
- **NIHMSIDs will not be accepted 3 months after publication.**
 - PMCID's are assigned around the time of publication.
 - Please use the PMCID once it is assigned.



Final Peer Reviewed Manuscript, on PubMed

The screenshot shows the PubMed search results for the article 'ABCA3 mutations associated with pediatric interstitial lung disease'. The article is listed as '1: Am J Respir Crit Care Med. 2005 Oct 15;172(8):1026-31. Epub 2005 Jun 23.' Two red circles highlight the 'Final Version FREE' and 'FREE Author Manuscript In PubMed Central' buttons. The abstract text is visible below the search results.



Final Peer Reviewed Manuscript, on PMC

The screenshot shows the NIH Public Access Author Manuscript page for the article 'ABCA3 Mutations Associated with Pediatric Interstitial Lung Disease'. The page includes the title, authors (Janine E. Bullard, Susan E. Wert, Jeffrey A. Whitsett, Michael Dean, and Lawrence M. Noguee), and the journal information (Am J Respir Crit Care Med). A red circle highlights the 'NIH Public Access Author Manuscript' header, and another red circle highlights the 'The publisher's final edited version of this article is available free at Am J Respir Crit Care Med' link.

A Final Published Article on PubMed

The screenshot shows the PubMed interface for a final published article. The article title is "Brief, large tidal volume ventilation initiates lung injury and a systemic response in fetal sheep." The authors listed are Hillman NH, Moss TJ, Kallapur SG, Bachurski C, Pillow JJ, Polglase GR, Nitsos I, Kramer BW, and Jobe AH. The article is from the American Journal of Respiratory and Critical Care Medicine, published in 2007. A red circle highlights the "Final Version FREE" and "FREE full text article in PubMed Central" buttons. The URL is http://publicaccess.nih.gov/ and the page is marked as DRAFT.

A Final Published Article on PMC

The screenshot shows the PMC interface for the same article. The title is "Brief, Large Tidal Volume Ventilation Initiates Lung Injury and a Systemic Response in Fetal Sheep." The authors are Noah H. Hillman, Timothy J. M. Moss, Suhas G. Kallapur, Cindy Bachurski, Jane Pillow, Graeme R. Polglase, Ilias Nitsos, Boris W. Kramer, and Alan H. Jobe. The article is from the American Journal of Respiratory and Critical Care Medicine. A red circle highlights the American Thoracic Society logo and the journal title. The URL is http://publicaccess.nih.gov/ and the page is marked as DRAFT.

Another Example of a Final Published Article

The screenshot shows a PNAS article page. The title is "HOXB13 promotes ovarian cancer progression." The authors are Jiangyong Miao, Zuncai Wang, Heather Provencher, Beth Muir, Sonika Dahiya, Erin Carney, Chee-Onn Leong, Dennis C. Sgroi, and Sandra Orsulic. The article is from the Proceedings of the National Academy of Sciences of the United States of America, published in 2007. A red circle highlights the PNAS logo. The URL is http://publicaccess.nih.gov/ and the page is marked as DRAFT.

A Comparison of Versions

The screenshot compares two versions of an article. The top version is from the American Journal of Respiratory and Critical Care Medicine, titled "ABCA3 Mutations Associated with Pediatric Interstitial Lung Disease." The authors are Janine E. Bullard, Susan E. Wert, Jeffrey A. Whitsett, and Lawrence M. Noguee. The bottom version is an NIH Public Access Author Manuscript for the same article, published in 2006. A red circle highlights the NIH Public Access logo. The URL is http://publicaccess.nih.gov/.