F1000
Bringing Transparency to Peer Review

Maaike Pols PhD
Scientific Outreach Manager

Urfist Bordeaux
18 March 2016

F1000
Faculty of 1000

Services for life scientists - powered by our Faculty of over 11,000 leading experts in Biology and Medicine.

DISCOVER

Powerful algorithms suggest articles relevant to your research, with the best articles highlighted as recommended by F1000 Faculty Members.

F1000Prime

WORK

A rich suite of tools help with writing, collaborating, reference management and preparation for publishing in the journal of your choice.

F1000Workspace

PUBLISH

An open science publishing platform for life scientists that offers immediate publication and transparent peer review.

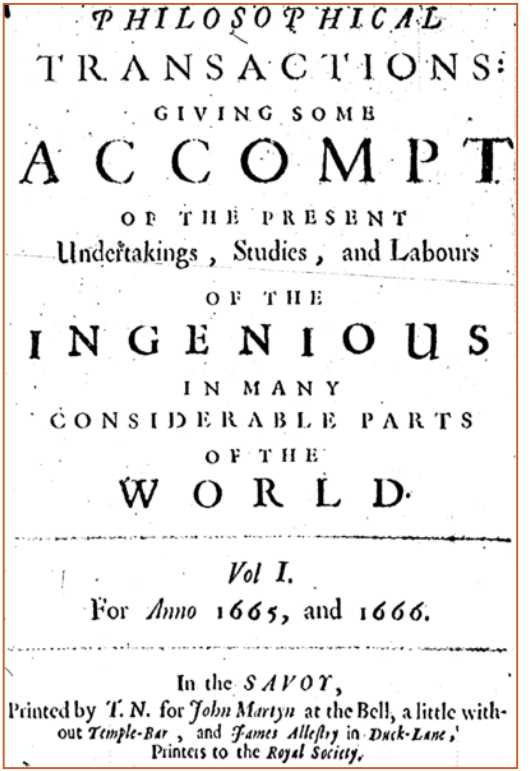
F1000Research

AGENDA

- Problems with traditional peer review
- New peer review models
- F1000Research's peer review model
- Challenges and benefits
- Future challenges and opportunities
- Summary Open peer review
- F1000Prime
- F1000Workspace

HISTORY OF PEER REVIEW

- First scientific journals were not peer reviewed.
- Peer review was introduced later, and developed as a method to select what is fit to print in limited available space.
- Journals as gatekeepers.
- Current popular system of peer review dates from mid-twentieth century.

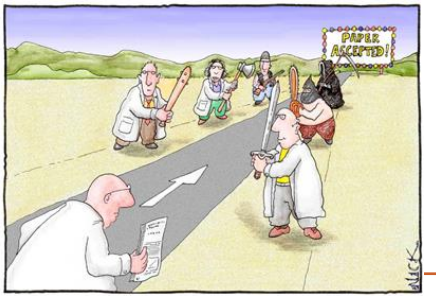

PHILOSOPHICAL
TRANSACTIONS:
GIVING SOME
ACCOMPT
OF THE PRESENT
Undertakings, Studies, and Labours
OF THE
INGENIOUS
IN MANY
CONSIDERABLE PARTS
OF THE
WORLD.

Vol I.
For Anno 1665, and 1666.

In the SAVOY,
Printed by T. N. for John Martyn at the Bell, a little without Temple-Bar, and James Allestry in Duck-Lane,
Printers to the Royal Society.

PROBLEMS WITH TRADITIONAL PUBLISHING

- Extensive delays in publication
- Repeat refereeing of work for different journals
- Time and money wasted by authors restructuring manuscripts for different journals
- Anonymous pre-publication peer review conceals referee and editorial bias
- Lack of reproducibility of much published science
- Publication bias: much good science is never shared or published, e.g. negative/null results, small studies, replication studies



Most scientists regarded the new streamlined peer-review process as "quite an improvement."

TYPES OF PEER REVIEW

Time of review:

- Before publication:
  - Cascading review
  - Third-party review
- Post-publication peer review:

Transparency of review:

- Single-blind
- Double-blind
- Triple Blind
- Open peer review
  - Partial
  - Full

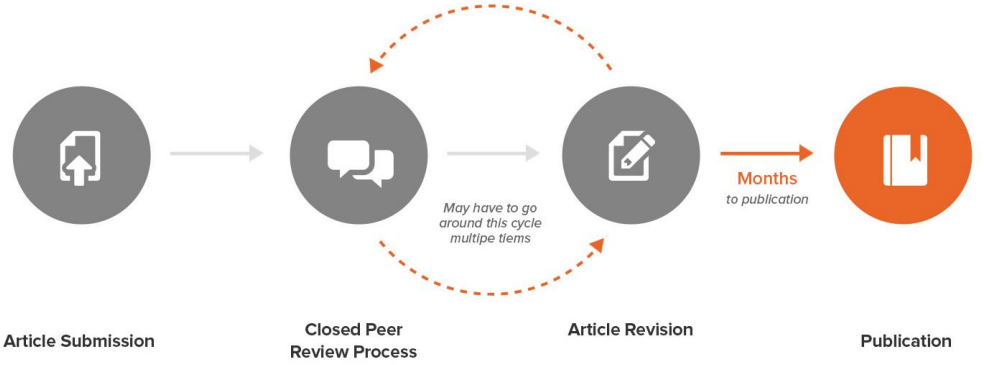
WHAT IS *F1000RESEARCH*?

Open Science Publishing Platform

Scope: all research – big and small – across the life sciences and medicine

- Immediate publication
- Transparent refereeing
- No editorial bias
- All source data included
- Indexed in PubMed

Traditional Publishing Process



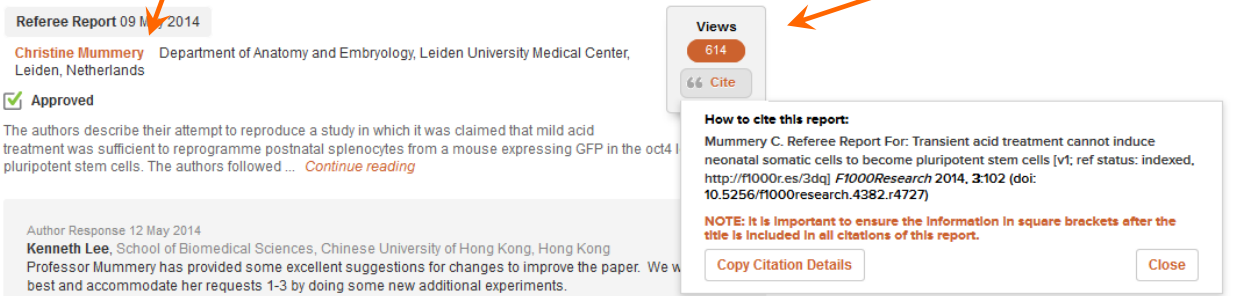
- Most journals publish articles after they pass peer review.
- The peer review process can take months – sometimes years.
- After rejection, start over again with another journal.
- This delays publication.

- *F1000Research* articles are published online after an in-house pre-refereeing check, on average, within 7 days.
- Peer review and revisions are carried out publicly.
- Invited referees judge whether the work is scientifically sound.
- Articles with sufficient positive referee reports are indexed in PubMed.

F1000RESEARCH REFEREE REPORT

Referee names are visible.

View count shows how many people read the referee report



Referee reports and author comments are visible to anyone.

Referee reports are citable with a DOI.

REFEREE SCORES

- Approved
- Approved with reservations
- Not approved

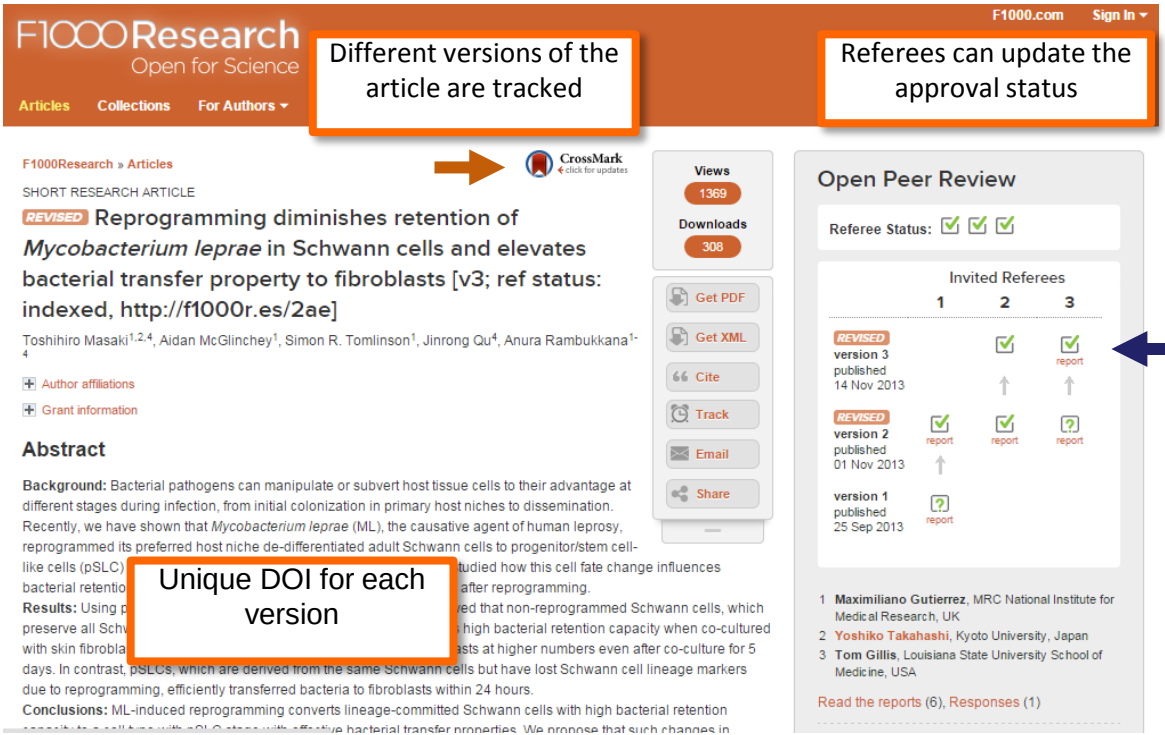
Articles with sufficient positive evaluations are indexed in PubMed, Scopus, and Embase

or

Minimal requirements for indexing

Articles that haven't yet reached this threshold can be revised and re-reviewed (no time limit)

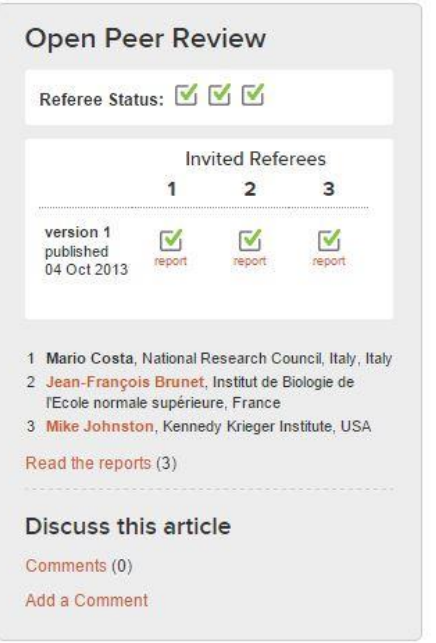
VERSIONS


F1000Research
Open for Science
F1000.com
Sign In
Articles
Collections
For Authors
Different versions of the article are tracked
Referees can update the approval status
F1000Research » Articles
CrossMark
click for updates
SHORT RESEARCH ARTICLE
REVISED
Reprogramming diminishes retention of Mycobacterium leprae in Schwann cells and elevates bacterial transfer property to fibroblasts [v3; ref status: indexed, http://f1000r.es/2ae]
Toshihiro Masaki[1,2,4], Aidan McGlinchey[1], Simon R. Tomlinson[1], Jinrong Qu[4], Anura Rambukkana[1-4]
Author affiliations
Grant information
Views
1369
Downloads
308
Get PDF
Get XML
Cite
Track
Email
Share
Abstract
Background: Bacterial pathogens can manipulate or subvert host tissue cells to their advantage at different stages during infection, from initial colonization in primary host niches to dissemination. Recently, we have shown that Mycobacterium leprae (ML), the causative agent of human leprosy, reprogrammed its preferred host niche de-differentiated adult Schwann cells to progenitor/stem cell-like cells (pSLC)
tudied how this cell fate change influences bacterial retentio
after reprogramming.
Results: Using p
ed that non-reprogrammed Schwann cells, which preserve all Schw
high bacterial retention capacity when co-cultured with skin fibrobla
sts at higher numbers even after co-culture for 5 days. In contrast, pSLCs, which are derived from the same Schwann cells but have lost Schwann cell lineage markers due to reprogramming, efficiently transferred bacteria to fibroblasts within 24 hours.
Conclusions: ML-induced reprogramming converts lineage-committed Schwann cells with high bacterial retention
Unique DOI for each version
Open Peer Review
Referee Status:
Invited Referees
1 2 3
REVISED
version 3
published
14 Nov 2013
report
REVISED
version 2
published
01 Nov 2013
report
report
report
version 1
published
25 Sep 2013
report
1 Maximiliano Gutierrez, MRC National Institute for Medical Research, UK
2 Yoshiko Takahashi, Kyoto University, Japan
3 Tom Gillis, Louisiana State University School of Medicine, USA
Read the reports (6), Responses (1)

METRICS


CITATIONS
Scopus
1
On 1 Facebook page
Mentioned by 1 peer review site
9 readers on Mendeley
SEE MORE DETAILS
Values are totals across all versions of this article


METRICS
VIEWS
1035
DOWNLOADS
352
Get PDF
Get XML
Cite
Export
Track
Email
Share


Open Peer Review
Referee Status:
Invited Referees
1 2 3
version 1
published
04 Oct 2013
report
report
report
1 Mario Costa, National Research Council, Italy, Italy
2 Jean-François Brunet, Institut de Biologie de l'Ecole normale supérieure, France
3 Mike Johnston, Kennedy Krieger Institute, USA
Read the reports (3)
Discuss this article
Comments (0)
Add a Comment

BENEFITS OF TRANSPARENT REVIEW

- Authors can talk directly to referees and demonstrate that their paper was reviewed by top people in their field.
- Visible discussion between referees and authors (and editors) puts paper in context.
- Referees are more thoughtful about what they write. And rarely ask for unreasonable additional experiments.
- Referees can take credit for their hard work.
- Educational aspect of open peer review

OTHER BENEFITS OF PUBLISHING IN F1000RESEARCH

- Publishes unusual article types such as:
  - Data notes
  - Antibody Validations
  - Negative/null results
  - Observation studies
- All source data included
- Unlimited ability to update and improve your articles
- Altmetrics for your paper provided

OTHER POST-PUBLICATION REVIEW JOURNALS

Copernicus journals – launched 2001

Copernicus Publications
The Innovative Open Access Publisher

- Invited reviewers
- Articles discussed by reviewers and others in discussion forum (formally published)
- Articles that pass review are published in journal

ScienceOpen Research – launched 2014

SO research

- Can invite own reviewers
- Reviewers must have 5 publications in ORCID
- In talks with indexing services

The Winnower – launched 2014

the WINNOWER

- Can invite own reviewers
- Anyone can review (with account)
- Not indexed

POTENTIAL CHALLENGES OF TRANSPARENT PEER REVIEW

- Post-publication peer review often gets confused with post-publication ***commenting***
  (e.g. PubMed Commons, Publons, Libre, PubPeer)
- Referees need checking more stringently

> I have read this submission. I believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard.

- The Editor can't just do it themselves
- Exposes when referee does poor job or just provides one line
- Exposes if no-one wants to referee the article or takes a long time
  - When do you stop?
  - Should the number of referees invited be listed?
  - Should a note be added after a time to say all agree not to continue?
  - What if manage to get one referee but can't get anyone else to do it?

CONCERNS PEOPLE SOMETIMES HAVE

- Will referees be publicly critical?

  → Yes, looks bad on referee if overly positive, but makes them more constructive

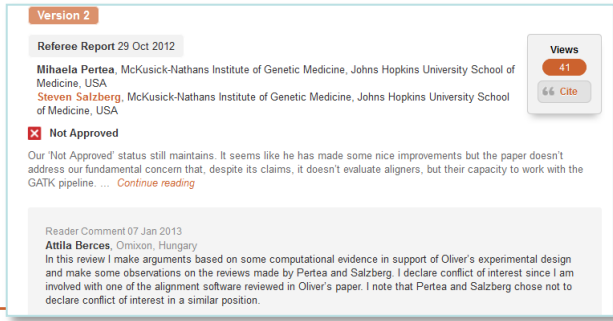
  → Openness may make them more careful not to miss issues

- Will authors be willing to publish where their work might be openly criticised?

  → Seems so! Authors often publish with us when especially worried will be treated fairly

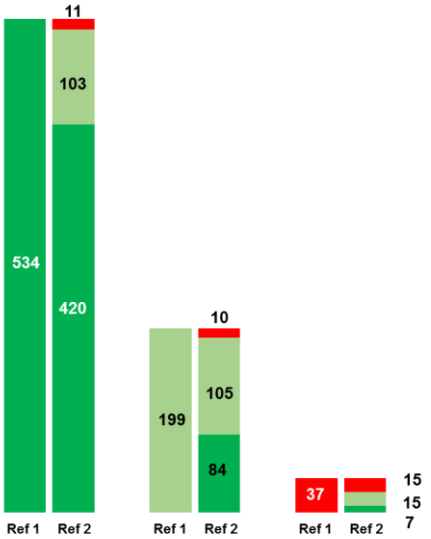
  → Improves quality of what is submitted

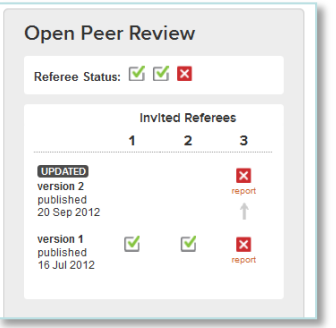
- Will junior researchers criticise more senior ones openly?



CONCERNS PEOPLE SOMETIMES HAVE - II

- Will referees only confirm what previous referees for that article have said?





Days between submissions	Kappa	% agreement
0	0.359	70.57%
>1	0.372	70.74%
>5	0.389	70.93%

FUTURE PEER REVIEW CHALLENGES AND OPPORTUNITIES

- Increasing range of scientific outputs for peer review:
  - Datasets and data papers
  - Software papers
  - Small findings / posters
- Decoupling of publishing and peer review/curation

- Journal-level metrics not appropriate for individual assessment

DO WE NEED JOURNALS AND PUBLISHERS?

SUMMARY

- Peer review is an important part of scientific dissemination
- The problems with the traditional process are well known
- Many new models being developed to tackle the issues
- Several publishers now working towards a post-publication open peer review system
- Still challenges, but most scientists agree this is ultimately the right way to share science
- What role should publishers play in this?

  Move away from trying to own the content and process

  Become service providers that enable the sharing, debate and discussion of science.

F1000Prime

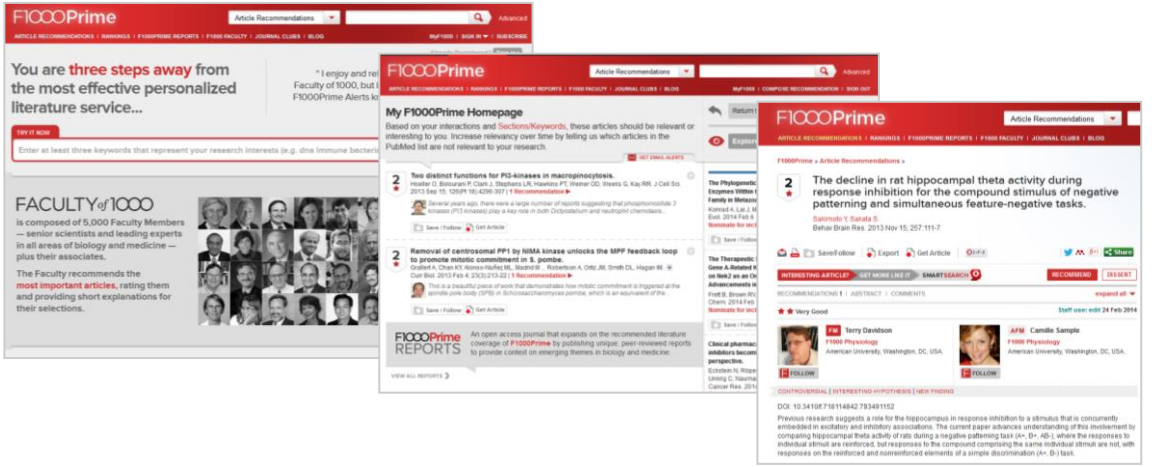
INTRODUCTION

Directory of recommendations of the best research in biology and medicine from a faculty of global experts.
(Launched 2002)

F1000Prime has a Faculty of over 5,000 leading experts who:

>>**Hand-pick** the best research articles in biology and medicine
>>Write a **concise recommendation of each article** plus provide a rating

F1000Prime's unique collection of innovative tools, including intelligent SmartSearches, brings you the most relevant article recommendations in your field.



WHO ARE THE FACULTY?

The Faculty include:

- 9 Nobel Prize winners
- 12 Lasker Award winners
- Over 100 Fellows of The Royal Society
- Over 140 members of the National Academy of Sciences

WHAT DOES F1000PRIME DO?

- Identify the most important papers
- Include expert comments explaining why an article is important
- Assign a rating of Exceptional, Very Good or Good
- Add relevant classifications (e.g. Novel drug target, Review etc.)

3

An astrocyte-dependent mechanism for neuronal rhythmogenesis.

Morquette P[1], Verdier D[1], Kadala A[1], Féthière J[2], Philippe AG[3], Robitaille R[1], Kolta A[4]
show author affiliations

Nat Neurosci. 2015 Jun; 18(6):844-54

★★★ Exceptional

Staff use: edit 04 Jun 2015

FM Giovanni Marsicano
F1000 Neuroscience
INSERM, Bordeaux, France.

CONTROVERSIAL | INTERESTING HYPOTHESIS | NEW FINDING

DOI: 10.3410/f.725465134.793507109

Rhythmic activity is a key functional determinant of neuronal networks. Several mechanisms regulate oscillation patterns in the nervous system. Astrocytes, by regulating several central functions, likely contribute to the coding of information. In this article, Morquette and colleagues nicely show that rhythmic activity in the trigeminal sensori-motor circuit for mastication requires astroglial signaling. This is an extremely interesting study, definitely showing the importance of astroglial cells in nervous system functions.

Disclosures
None declared

ABSTRACT

Communication between neurons rests on their capacity to change their firing pattern to encode different messages. For several vital functions, such as respiration and mastication, neurons need to generate a rhythmic firing pattern. Here we show in the rat trigeminal sensori-motor circuit for mastication that this ability depends on regulation of the extracellular Ca(2+) concentration ([Ca(2+)]e) by astrocytes. In this circuit, astrocytes respond to sensory stimuli that induce neuronal rhythmic activity, and their blockade with a Ca(2+)... more »

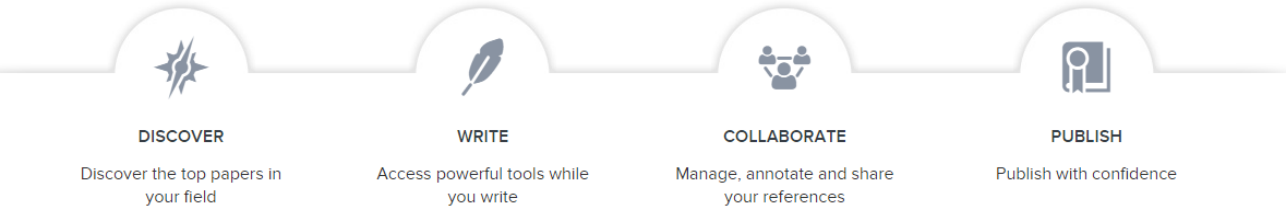
DOI: 10.1038/nn.4013
PMID: 25938883

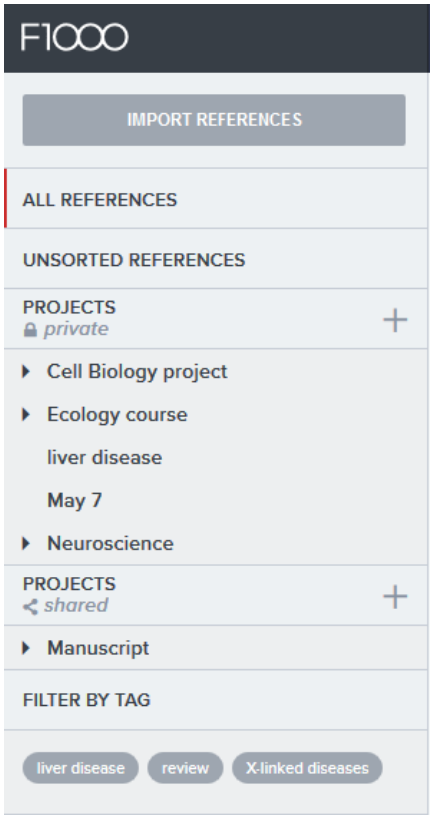

F1000
Your science workspace

INTRODUCTION

F1000 has introduced a new set of tools to help scientists

- Write articles
- Collaborate with co-authors
- Organise, annotate and manage references



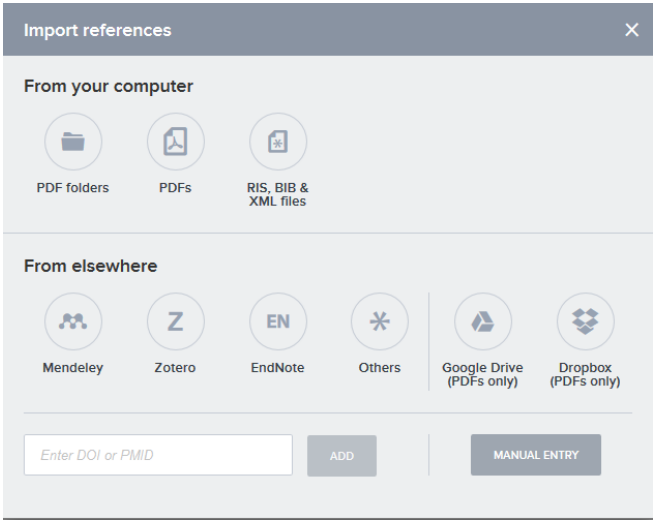


PROJECTS

- F1000 is based around projects

- Set up a project for your next manuscript, book chapter, thesis, grant application, etc.

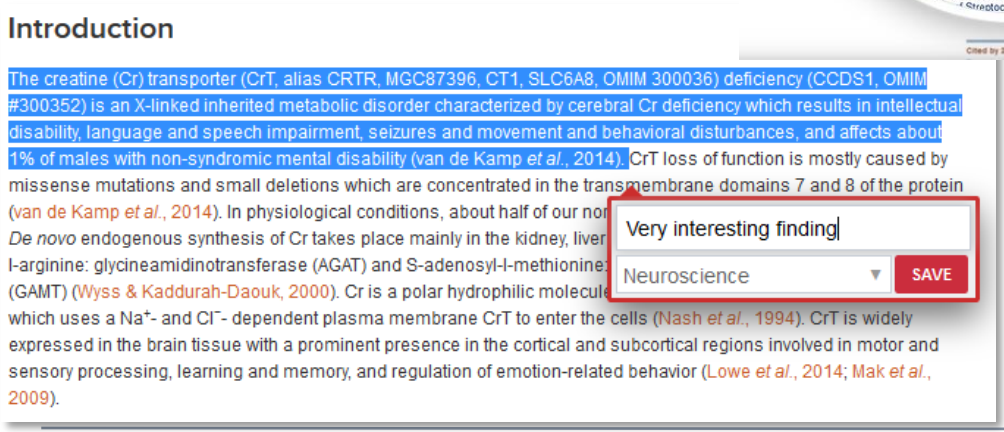
ADD REFERENCES VIA F1000 SITE



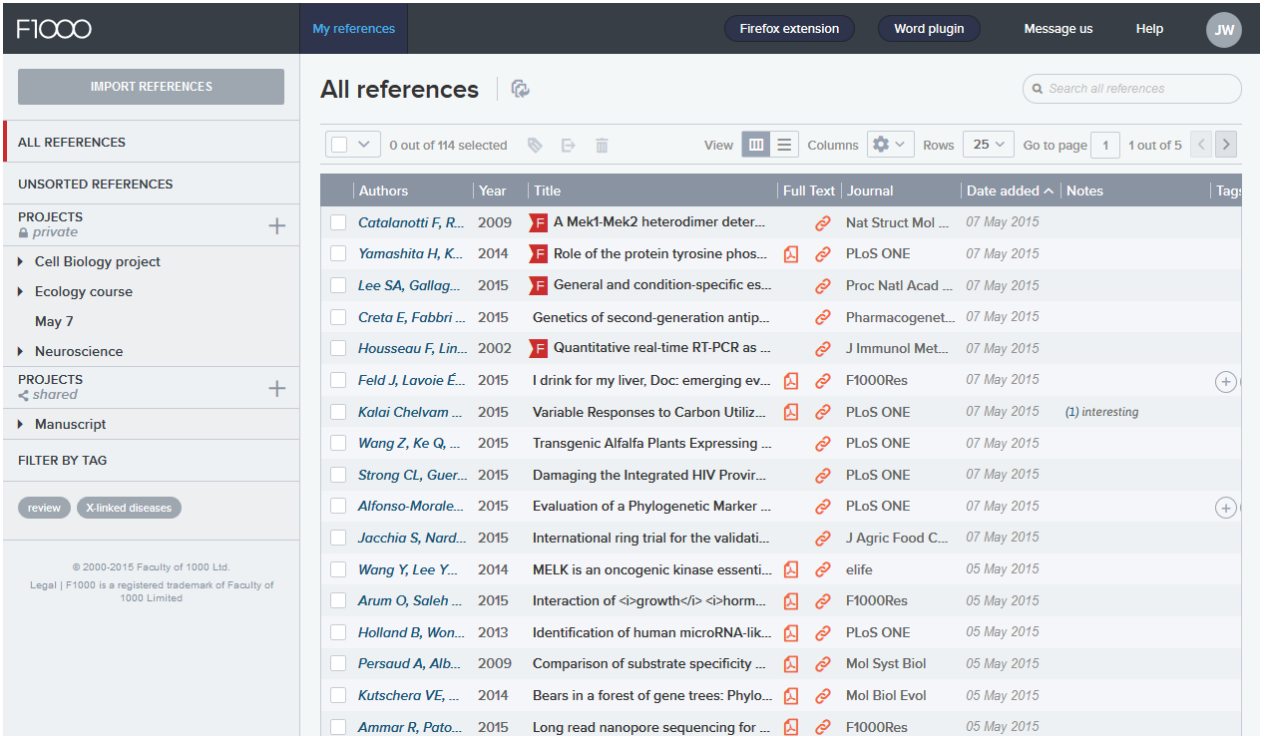
- Import PDF files or folders
- Search by DOI or PMID
- Import from other reference managers
- Add manually

BROWSER EXTENSION

- Save and annotate research articles while you browse the web.
- Start a new project from the annotator



F1000WORKSPACE PROJECTS



FACULTY RECOMMENDATIONS

BACK

Faculty recommended

Added on 27 Jan 2015 by **You** *via* **www.ncbi.nlm.nih.gov**

Dopamine-induced α-synuclein oligomers show self- and cross-propagation properties.

Planchard MS, Exley SE, Morgan SE, Rangachari V

SHOW AFFILIATIONS

Protein Sci. 2014 Jul 16

Abstract | Notes (0) | Related articles | Faculty recommendations 1

FM | Vladimir Uversky
Structural Biology
University of South Florida, Tampa, FL, USA

★☆☆ Good — 20 Aug 2014

Good for teaching | Confirmation | New finding | Interesting hypothesis

DOI: 10.3410/f.718500794.793498874

The authors purified and characterized various low-molecular-weight oligomers produced by incubation of purified recombinant human α-synuclein (a protein implicated in the pathogenesis of Parkinson's disease [PD]) with dopamine. These dopamine-derived α-synuclein oligomers (DSOs) are characterized by a wide range of oligomerization degree (ranging from dimers to 13-mers), possess coil-like secondary structure, are able to self-propagate, and are capable of cross-propagation efficiently initiating the formation of the amyloid-β (Aβ) aggregates involved in Alzheimer's disease (AD). The mechanisms of self- and cross-propagation are very different, since in the self-propagation process, DSOs stay mostly disordered, but noticeable β-sheet structure is formed in the cross-propagation reaction with Aβ. Based on these observations, the authors hypothesized that DSOs not only are involved in the PD pathogenesis but also may play a role in the appearance of AD-like pathology in PD patients.

FULL TEXT ARTICLE

UPLOAD PDF

SUPPLEMENTARY DATA

UPLOAD FILES

TAGS

Add tag...

PROJECTS

Neuroscience project
neurodegenerative diseases
Manuscript
For introduction

ADD TO PROJECT +

MEMBERS

The following people can see shared notes on this reference.

EA **Eva Amsen** *Manuscript, For introducti...*

MP **Maaike Pols** *Manuscript, For introducti...*

ARTICLE RECOMMENDATIONS

Cell Biology project

REFERENCES | RECOMMENDATIONS | NOTES | ACTIVITY

Invite members

1 out of 3

Research we think might be relevant to your project — How it works

Malaria-associated atypical memory B cells exhibit markedly reduced B cell receptor signaling and effector function.

Portugal S, Tipton CM, Sohn H, Kone Y, Wang J, Li S, Skinner J, Virtaneva K, Sturdevant DE, Porcella ...

elife. 2015 May 08; 4

SHOW ABSTRACT

ADD TO PROJECT | DISMISS | Full text

Single fibril growth kinetics of α-synuclein.

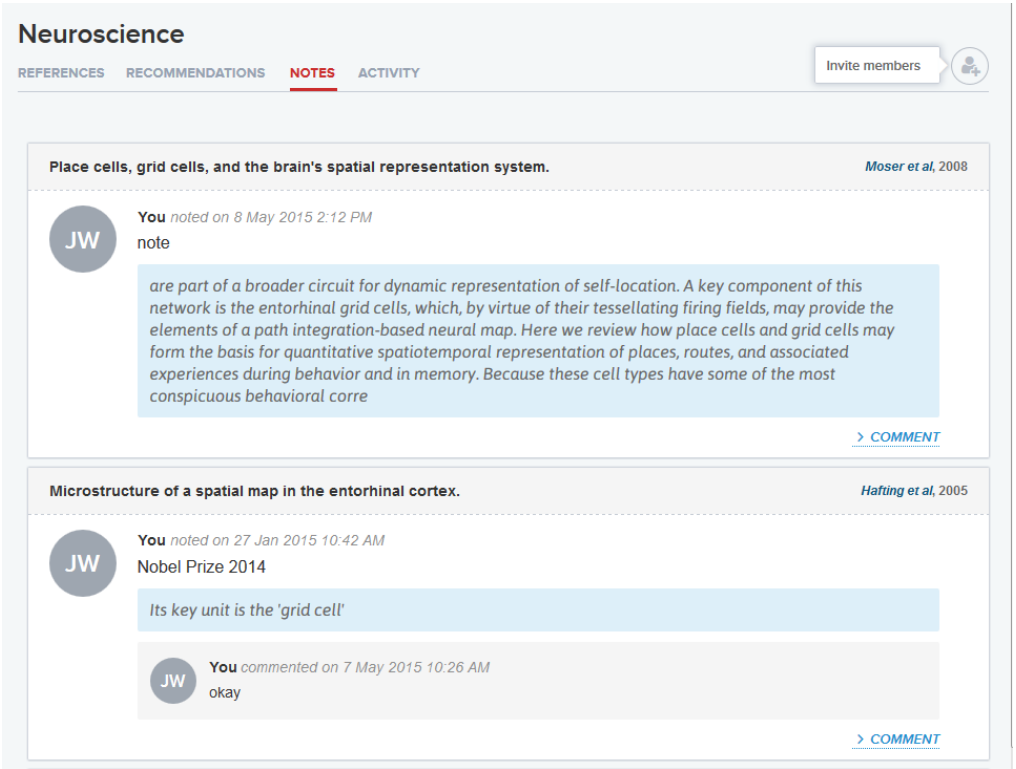
Wördehoff MM, Bannach O, Shaykhalishahi H, Kulawik A, Schiefer S, Willbold D, Hoyer W, Birkmann E

J Mol Biol. 2015 Feb 04

SHOW ABSTRACT

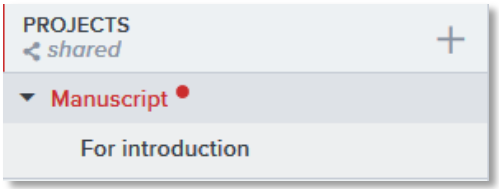
ADD TO PROJECT | DISMISS | Full text

NOTES

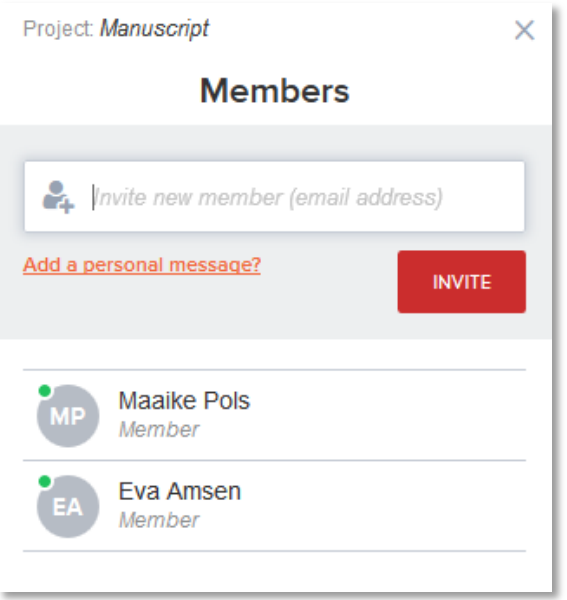

Neuroscience
REFERENCES
RECOMMENDATIONS
NOTES
ACTIVITY
Invite members
Place cells, grid cells, and the brain's spatial representation system.
Moser et al, 2008
JW
You noted on 8 May 2015 2:12 PM
note
are part of a broader circuit for dynamic representation of self-location. A key component of this network is the entorhinal grid cells, which, by virtue of their tessellating firing fields, may provide the elements of a path integration-based neural map. Here we review how place cells and grid cells may form the basis for quantitative spatiotemporal representation of places, routes, and associated experiences during behavior and in memory. Because these cell types have some of the most conspicuous behavioral corre
› COMMENT
Microstructure of a spatial map in the entorhinal cortex.
Hafting et al, 2005
JW
You noted on 27 Jan 2015 10:42 AM
Nobel Prize 2014
Its key unit is the 'grid cell'
JW
You commented on 7 May 2015 10:26 AM
okay
› COMMENT

SHARED PROJECTS

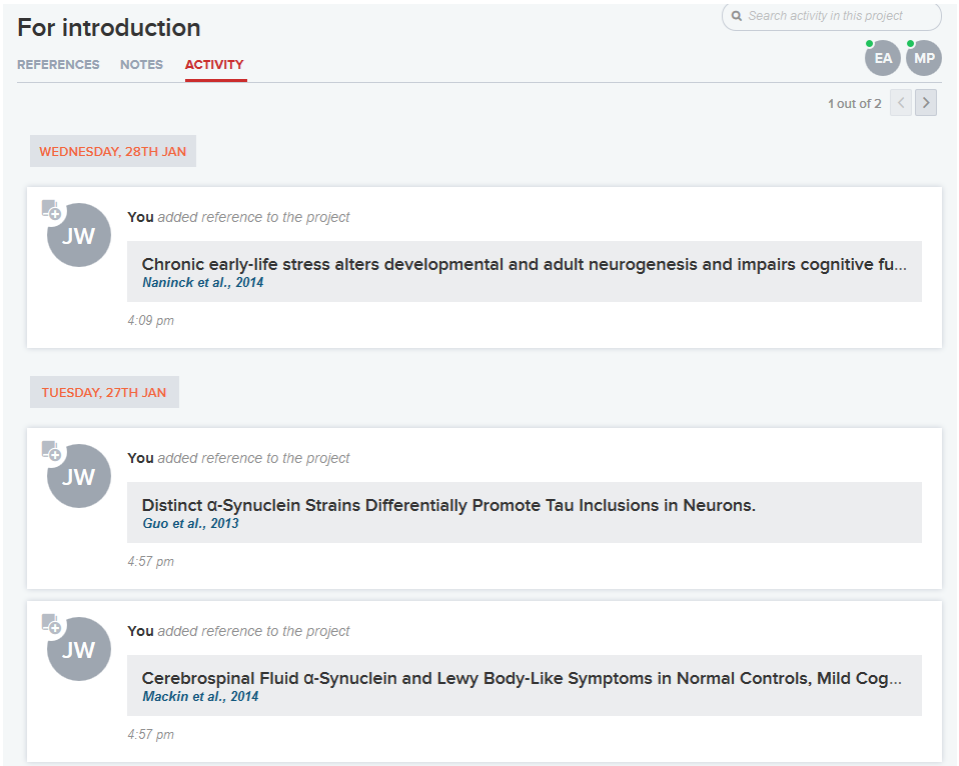
- Invite collaborators
- See new activity on your projects
- Share notes and manuscripts



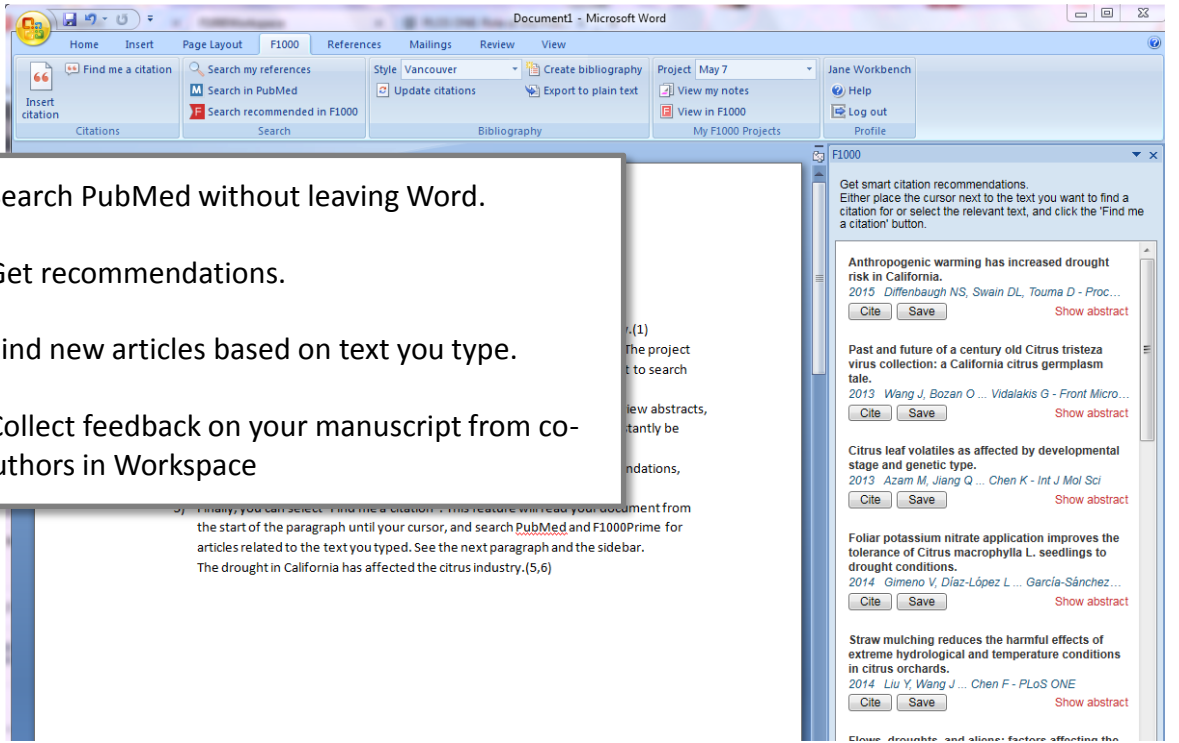
Subprojects of shared projects are shared as well



ACTIVITY

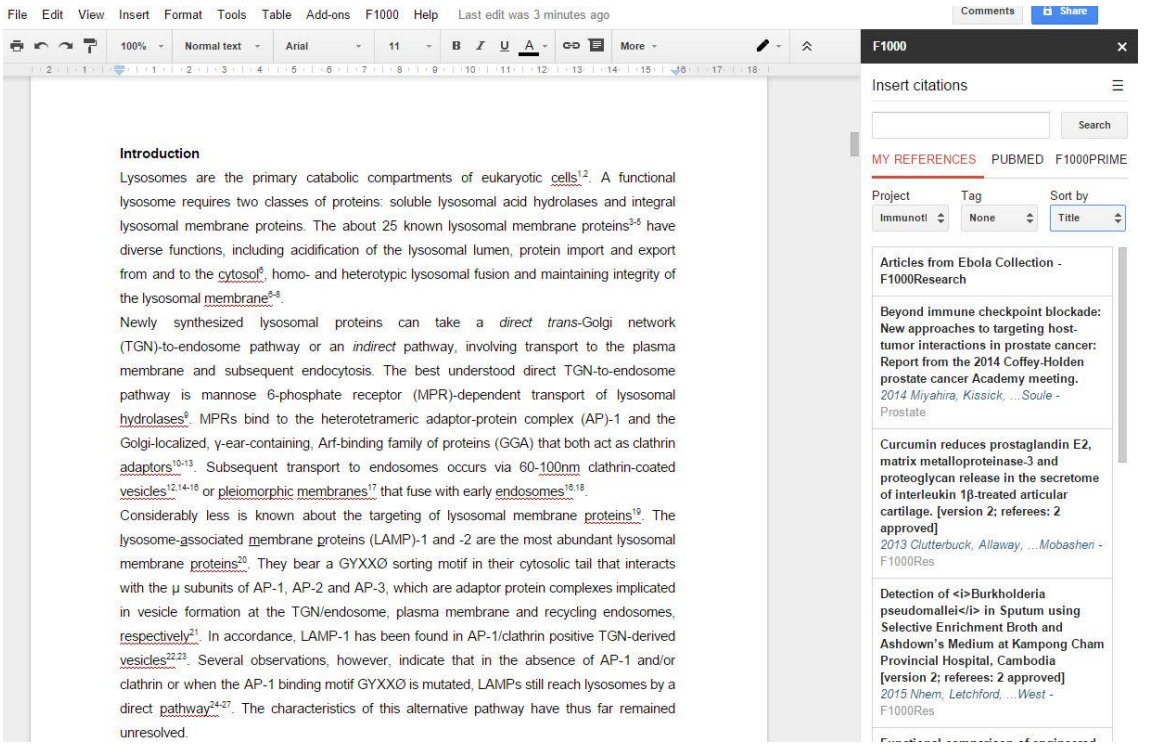

For introduction
Search activity in this project
REFERENCES
NOTES
ACTIVITY
EA
MP
1 out of 2
WEDNESDAY, 28TH JAN
JW
You added reference to the project
Chronic early-life stress alters developmental and adult neurogenesis and impairs cognitive fu...
Naninck et al., 2014
4:09 pm
TUESDAY, 27TH JAN
JW
You added reference to the project
Distinct α-Synuclein Strains Differentially Promote Tau Inclusions in Neurons.
Guo et al., 2013
4:57 pm
JW
You added reference to the project
Cerebrospinal Fluid α-Synuclein and Lewy Body-Like Symptoms in Normal Controls, Mild Cog...
Mackin et al., 2014
4:57 pm

WORD PLUGIN



- Search PubMed without leaving Word.
- Get recommendations.
- Find new articles based on text you type.
- Collect feedback on your manuscript from co-authors in Workspace

GOOGLE DOCS PLUGIN



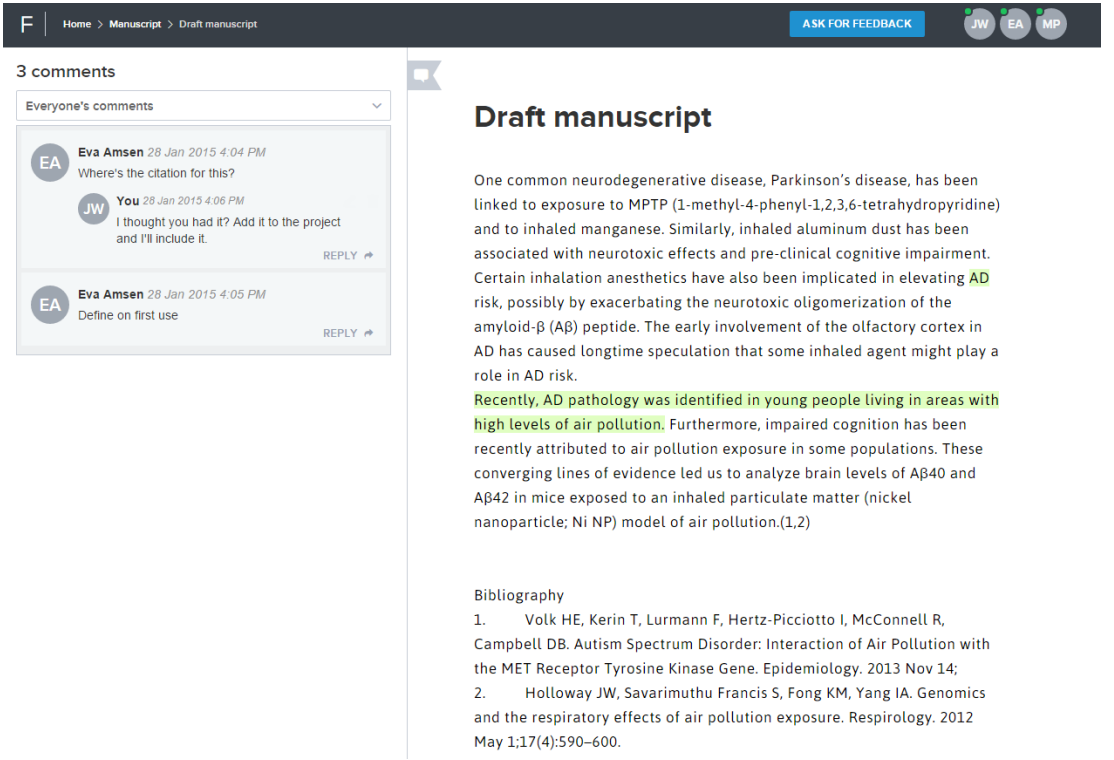
Introduction

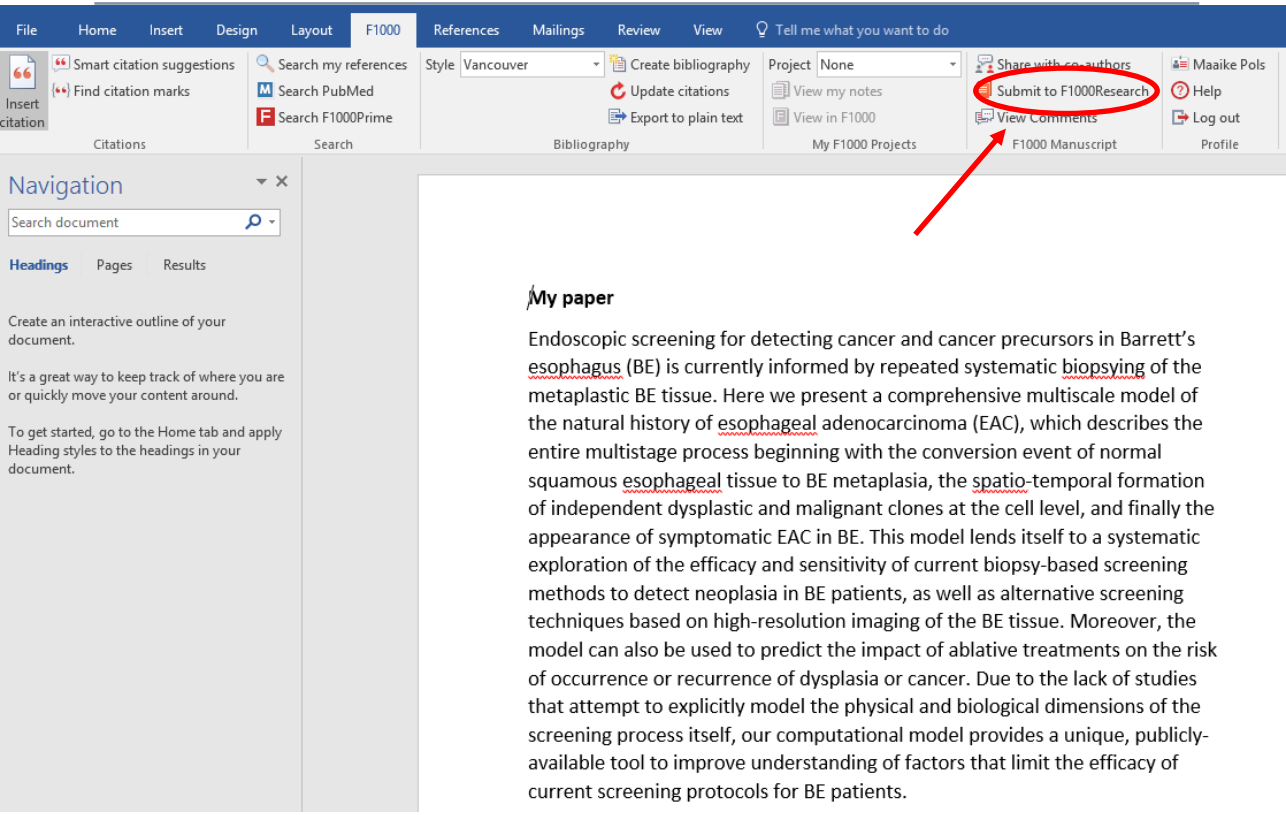
Lysosomes are the primary catabolic compartments of eukaryotic cells[1,2]. A functional lysosome requires two classes of proteins: soluble lysosomal acid hydrolases and integral lysosomal membrane proteins. The about 25 known lysosomal membrane proteins[3-5] have diverse functions, including acidification of the lysosomal lumen, protein import and export from and to the cytosol[6], homo- and heterotypic lysosomal fusion and maintaining integrity of the lysosomal membrane[6-8].

Newly synthesized lysosomal proteins can take a *direct trans*-Golgi network (TGN)-to-endosome pathway or an *indirect* pathway, involving transport to the plasma membrane and subsequent endocytosis. The best understood direct TGN-to-endosome pathway is mannose 6-phosphate receptor (MPR)-dependent transport of lysosomal hydrolases[9]. MPRs bind to the heterotetrameric adaptor-protein complex (AP)-1 and the Golgi-localized, γ-ear-containing, Arf-binding family of proteins (GGA) that both act as clathrin adaptors[10-13]. Subsequent transport to endosomes occurs via 60-100nm clathrin-coated vesicles[12,14-16] or pleiomorphic membranes[17] that fuse with early endosomes[16,18].

Considerably less is known about the targeting of lysosomal membrane proteins[19]. The lysosome-associated membrane proteins (LAMP)-1 and -2 are the most abundant lysosomal membrane proteins[20]. They bear a GYXXØ sorting motif in their cytosolic tail that interacts with the μ subunits of AP-1, AP-2 and AP-3, which are adaptor protein complexes implicated in vesicle formation at the TGN/endosome, plasma membrane and recycling endosomes, respectively[21]. In accordance, LAMP-1 has been found in AP-1/clathrin positive TGN-derived vesicles[22,23]. Several observations, however, indicate that in the absence of AP-1 and/or clathrin or when the AP-1 binding motif GYXXØ is mutated, LAMPs still reach lysosomes by a direct pathway[24-27]. The characteristics of this alternative pathway have thus far remained unresolved.

WORD PLUGIN


F
Home > Manuscript > Draft manuscript
ASK FOR FEEDBACK
JW
EA
MP
3 comments
Everyone's comments
EA
Eva Amsen 28 Jan 2015 4:04 PM
Where's the citation for this?
JW
You 28 Jan 2015 4:06 PM
I thought you had it? Add it to the project and I'll include it.
REPLY
EA
Eva Amsen 28 Jan 2015 4:05 PM
Define on first use
REPLY
Draft manuscript
One common neurodegenerative disease, Parkinson's disease, has been linked to exposure to MPTP (1-methyl-4-phenyl-1,2,3,6-tetrahydropyridine) and to inhaled manganese. Similarly, inhaled aluminum dust has been associated with neurotoxic effects and pre-clinical cognitive impairment. Certain inhalation anesthetics have also been implicated in elevating AD risk, possibly by exacerbating the neurotoxic oligomerization of the amyloid-β (Aβ) peptide. The early involvement of the olfactory cortex in AD has caused longtime speculation that some inhaled agent might play a role in AD risk.
Recently, AD pathology was identified in young people living in areas with high levels of air pollution. Furthermore, impaired cognition has been recently attributed to air pollution exposure in some populations. These converging lines of evidence led us to analyze brain levels of Aβ40 and Aβ42 in mice exposed to an inhaled particulate matter (nickel nanoparticle; Ni NP) model of air pollution.(1,2)
Bibliography
1. Volk HE, Kerin T, Lurmann F, Hertz-Picciotto I, McConnell R, Campbell DB. Autism Spectrum Disorder: Interaction of Air Pollution with the MET Receptor Tyrosine Kinase Gene. Epidemiology. 2013 Nov 14;
2. Holloway JW, Savarimuthu Francis S, Fong KM, Yang IA. Genomics and the respiratory effects of air pollution exposure. Respirology. 2012 May 1;17(4):590–600.



F1000 TOOLS

- F1000 Browser Extension
  - Browser plugin to annotate and save articles form the web
- F1000 Word Plugin or Google Docs Plugin
  - Cite and search your references
  - Search PubMed from within Word
  - Receive suggested references while you type
  - Upload your manuscript to Workspace and collect feedback from co-authors
  - Submit your paper to *F1000Research* in one click
- F1000 Desktop Extension
  - Upload references from your desktop
  - Keep references in sync with updates

F1000Workspace

A workspace for scientists to write, annotate, share, and discuss scientific literature. Powered by the F1000 faculty of over 10,000 leading experts in biology and medicine.

Join now at F1000.com/work

COLLECT

Collect, annotate and organise references as soon as you find them.

WRITE

Write better, faster with our powerful Word plugin.

COLLABORATE

Get everyone on the same page with shared reference lists.