

# RRIDs are Research Object Identifiers; a practical use case, \*mainly for biology



*Anita Bandrowski,  
SciCrunch / NIF / RRID  
abandrowski@ncmir.ucsd.edu  
orcid.org/0000-0002-5497-0243*



# Quality of published research is in question

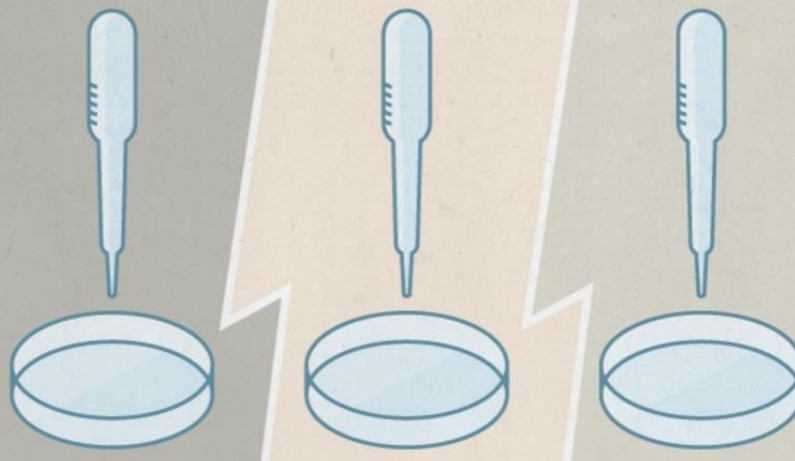


**nature** International weekly journal of science

Home | News & Comment | Research | Careers & Jobs | Current Issue | Archive | Audio & Video

Archive > Specials and supplements archive > Challenges in irreproducible research

SPECIAL [See all special](#)



**CHALLENGES IN IRREPRODUCIBLE RESEARCH**

Science moves forward by corroboration – when researchers verify others' results. Science advances faster when people waste less time pursuing false leads. No research paper can ever be considered to be the final word, but there are too many that do not stand up to further study.

There is growing alarm about results that cannot be reproduced. Explanations include increased levels of scrutiny, complexity of experiments and statistics, and pressures on researchers. Journals, scientists, institutions and funders all have a part in tackling reproducibility. *Nature* has taken substantive steps to improve the transparency and robustness in what we publish, and to promote awareness within the scientific community. We hope that the articles contained in this collection will help.

Solving quality: mandates and solutions

NIH NOT-OD-16-011

Journals RRIDs

Societies FASEB Guidelines

Non-Profits TOP Guidelines

\*Reproducibility of science is critical\*

\*Transparency is achievable\*



What is reproducible science?



# What is reproducible science?



## Step 1: Materials

### You'll need:

- 1 bunch of parsley
- 1 bulb of **garlic**
- 2/3 cup neutral oil (such as canola oil, light olive oil, or grapeseed oil)
- 1 1/2 teaspoons crushed red pepper flakes
- 1 teaspoon salt
- 1/8 teaspoon freshly ground black pepper
- juice of half a lime
- Skirt steak (Make however much you want! You'll have plenty of chimichurri to go with it.)

## Step 2: Methods



# Step 1: In Practice

N2, a peptide corresponding to a conserved C-terminal portion of mouse and human NMHC-IIA, binds CM22 in vitro.<sup>7</sup> N2 blocks IgM antibody deposition and inhibits injury in rodent models of intestinal, skeletal muscle, and myocardial I/R injury as well as burn injury and hemorrhagic shock.<sup>8, 9, 10, 11, 12 and 13</sup> Thus, NMHC-IIA appears to be a conserved injury/ischemia antigen in multiple rodent tissues. A critical, unanswered question is whether human antibodies that target NMHC-IIA exist and if so, whether NMHC-IIA is a conserved injury antigen in humans.

To address these questions, we engrafted NOD.SCID.IL2rg knockout mice, which lack endogenous murine NK cells and T and B cells, with human peripheral blood lymphocytes to generate humanized mice.<sup>14 and 15</sup> Prior studies mice stably engraft with human T cells and generate at least some isotypes.<sup>16 and 17</sup> In this model, we characterize B cell and antibody the phenotype of intestinal I/R injury. We then test the efficacy of using this novel humanized mouse model.

## Methods

### Generation of humanized PBL-SCID mice

NOD.PkSCID.IL2 receptor gamma chain null mice were purchased from Jackson Laboratories (Bar Harbor, ME). Human lymphocytes were isolated by density centrifugation from peripheral blood obtained from human donors. Three- to 4-week-old male mice were injected with 20–25 million



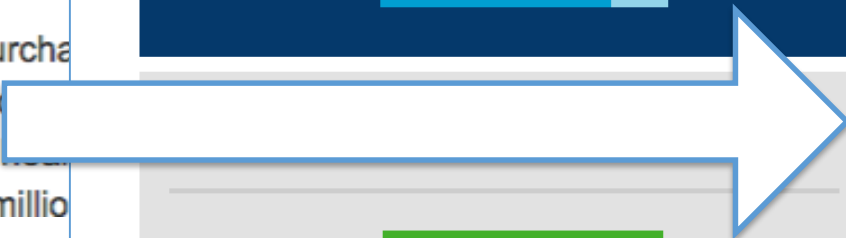
## JAX® MICE SEARCH

Search by Stock #    Keyword Search

Enter Search Term

RESULTS FOR: NOD.PkSCID.IL2 ×

CLEAR ALL

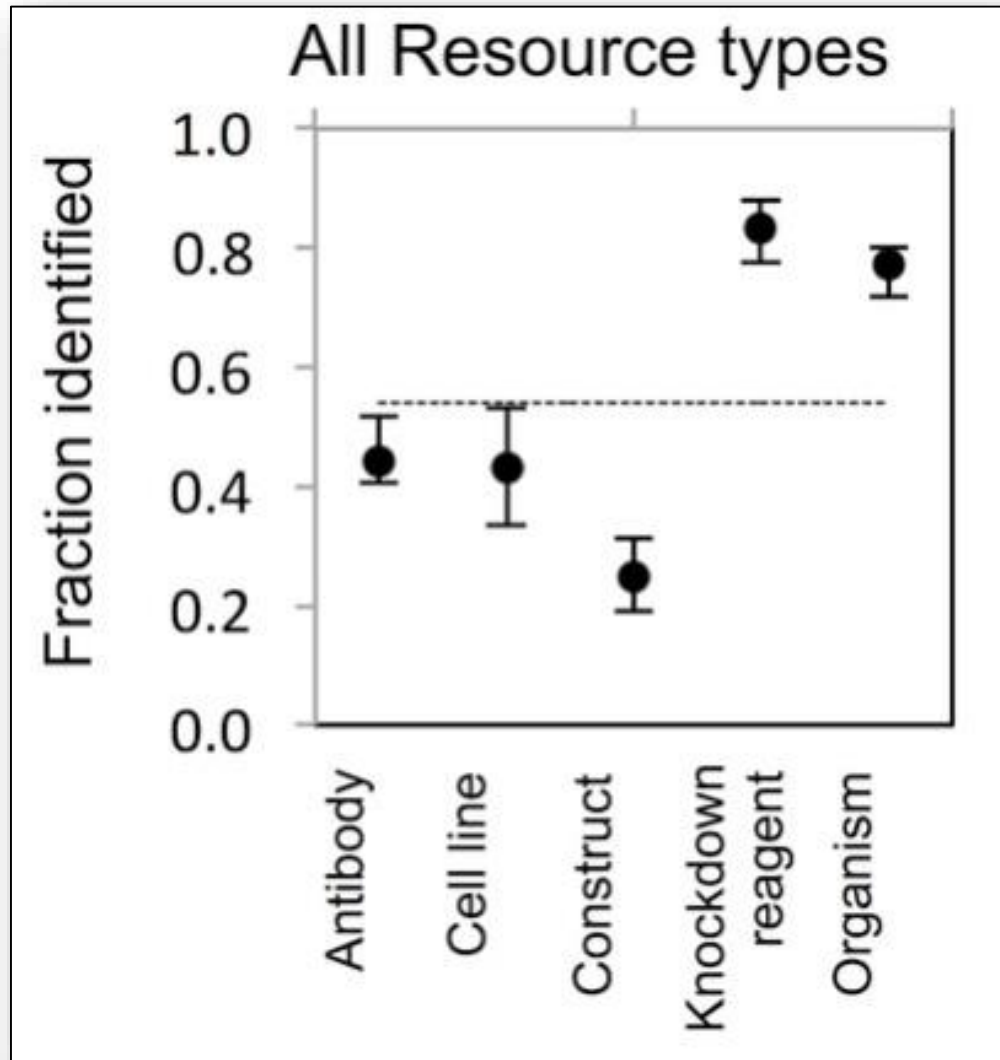


Sorry, your search yielded no results

- Text Search**  
A text search looks for the entire text string (albumin cre), then search for the first (albumin), then search for the rest.



# How common is this?



Papers are currently poor at identifying the simplest part of the paper, the materials used

Vasilevsky 2013





But the author knows what was used!  
This author got back to me within 2 hours with  
the stock number of this mouse

The image shows a screenshot of a ScienceDirect article on the left and a forum reply on the right. The article text is partially visible, with a yellow highlight in the 'Methods' section. The forum reply is from a user named 'bandrow' and provides a link to the mouse stock number.

**ScienceDirect Article Snippet:**

...a peptide corresponding to a conserved C-terminal section of mouse and human NMHC-IIA, binds CM22 in vitro.<sup>7</sup> N2 blocks IgM antibody deposition and inhibits injury in rodent models of intestinal, skeletal muscle, and myocardial I/R injury as well as burn injury and hemorrhagic shock.<sup>8, 9, 10, 11, 12 and 13</sup> Thus, NMHC-IIA appears to be a conserved injury/ischemia antigen in multiple rodent tissues. A critical, unanswered question is whether human antibodies that target NMHC-IIA exist and if so, whether NMHC-IIA is a conserved injury antigen in humans.

To address these questions, we engrafted NOD.SCID.IL2rg knockout mice, which lack endogenous murine NK cells and T and B cells, with human peripheral blood lymphocytes to generate humanized mice.<sup>14 and 15</sup> Prior studies have shown that these mice stably engraft with human T cells and generate at least some human antibody isotypes.<sup>16 and 17</sup> In this model, we characterize B cell and antibody expression as well as the phenotype of intestinal I/R injury. We then test the efficacy of N2 against intestinal I/R using this novel humanized mouse model.

**Methods**

Generation of humanized PBL-SCID mice

**NOD.PkSCID.IL2 receptor gamma chain null mice** were purchased from Jackson Laboratories (Bar Harbor, ME). Human lymphocytes were obtained by Ficoll-Paque density centrifugation from peripheral blood obtained from healthy adult, male donors. Three- to 4-week-old male mice were injected with 20–25 million human lymphocytes

**Forum Reply:**

**bandrow** 17 days ago

*NOD.PkSCID.IL2 receptor gamma chain null mice*

I can't find this mouse at JAX: <https://www.jax.org/search?q=NOD.PkSCID.IL2> any help would be appreciated

1 reply Edit Delete Reply Share

**bandrow** 17 days ago

dear anita,

here's a link to jackson labs page for the mice used --

<https://www.jax.org/strain/005557>

best, eric

Edit Delete Reply Share

# Perhaps this paper should have read...



## Methods

Generation of humanized PBL-SCID mice

NOD.PkSCID.IL2 receptor gamma chain null mice

Lab [RRID:IMSR\\_JAX:005557](https://rrid.nlm.nih.gov/rrid/RRID:IMSR_JAX:005557)

Resolvers:  
scicrunch, n2t or  
identifiers.org

density centrifugation from peripheral blood obtained from

Three- to 4-week-old male mice were injected with 20–25 million human lymphocytes

The Jackson Laboratory  
MOUSE STRAIN DATASHEET - 005557

**NOD.Cg-Prkdc<sup>scid</sup> Il2rg<sup>tm1Wjl</sup>/SzJ** POPULAR

Stock No: 005557 | NSG

Congenetic, Spontaneous Mutation, Targeted Mutation

OVERVIEW DETAILS GENETICS DISEASE/PHENOTYPE TECHNICAL SUPPORT PRICING & AVAILABILITY TERMS OF USE RELATED STRAINS

Also Known As: NOD-*scid* IL2Rgamma<sup>null</sup>, NOD-*scid* IL2Rg<sup>null</sup>, NSG, NOD *scid* gamma

These mice are most often referred to using their branded name "NSG™" and are extremely immunodeficient. The mice carry two mutations on the NOD/ShiLtJ genetic background; severe combined immune deficiency (*scid*) and a complete null allele of the IL2 receptor common gamma chain (*IL2rg<sup>null</sup>*). The *scid* mutation is in the DNA repair complex protein *Prkdc* and renders the mice B and T cell deficient. The *IL2rg<sup>null</sup>* mutation prevents cytokine signaling through multiple

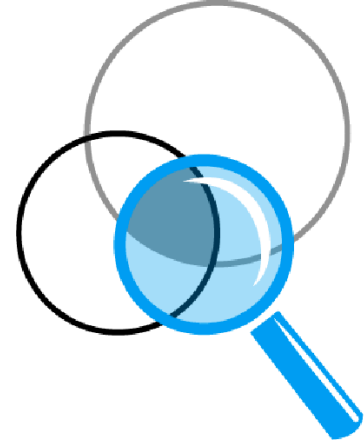
READILY AVAILABLE

PLACE ORDER

Readily available in any quantity needed.



# Anatomy of the RRID syntax



DSHB Cat# GAD-6, Lot #12, RRID:AB\_528264

Company or  
Provider

Local  
Identifier

Version or  
Lot used

Global Unique  
Persistent Identifier



# How can we get better data into papers?

2009: LAMHDI meeting – project hatched

Journals key solution

2011: Meeting with Society for Neuroscience, Journal of Neuroscience full editorial board presenting the problem and results of text mining study

Journals will not change

2012: Society for Neuroscience – defined the problem for Editors of top Neuroscience journals; sponsored by INCF

Journals in aggregate

2013: NIH Meeting - brought the editors back to define the solution; 2 day workshop sponsored by NIDA and INCF, several IC directors in attendance

Funders role

2013: Society for Neuroscience – mainly publishers, defined the timeline of starting the project

2014: Neuroscience Information Framework – built scicrunch.org/resources based on NIF technologies and members of the OHSU team populated web pages / instructions etc.

ID based tracking

2014: Project starts with Journal of Neuroscience, Neuroinformatics, F1000, Brain and Behavior and Journal of Comparative Neurology taking a strong lead

Project Management Key

2015: Paper describing how RRIDs are used by authors of the first 100 papers is co-published in 4 journals

2016: integration with Hypothes.is tool gives curators an easy way to verify RRIDs, sci-score gives authors an easier way to detect what is a resource

Technology innovation

2018: SciScore, an automated tool for publishers



# RRID Author's Workflow



<http://scicrunch.org/resources>

SEARCH FOR RESOURCES

GFAP

Anti-Tyrosine Hydroxylase antibody, Millipore

Cite this **Millipore Cat# AB1542 RRID:AB\_90755**

Vendor Catalog #: AB1542

AB Registry ID: AB\_90755

References: PMID:16736471, PMID:16802333, PMID:18175352, PMID:18425804, PMID:18634004, PMID:20148440, PMID:22821606, PMID:23322532, PMID:23623814, PMID:23696474, PMID:247154, PMID:25728799, PMID:25855184, PMID:26599696, PMID:27997986

Host Organism:

Clonality: polyclonal antibody

Target(s): Tyrosine Hydroxylase

Comments: manufacturer recommendations: Western Blot, Immunohistochemistry, IHC, WB

Millipore Cat# AB1542 Lot# RRID:AB\_90755

AntibodyRegistry: Antibodies (3) | Cite This | View Source Information

Journal directs author to RRID portal

Author searches for an antibody

Author copies "Cite This" text into manuscript

Paper is published

Google Scholar

RRID:AB\_90755

12 results (0.06 sec)

Articles

Case law

My library

Any time

Since 2017

Since 2016

Since 2013

Sort by relevance

Sort by date

α-Synuclein-independent h... motor

endolysosomal Parkinsonis

LR Kett, B Stiller, MM Bernath, J Tasset... - Journal of ..., 2015 - Soc I

Cited by 16 Related articles All 8 versions Cite Save

HTML The Resource Identification Initiative: A cultural

A Bandrowski, M Brush, JS Grethe... - Journal of ..., 2016 - Wiley On

... AB1542, RRID:AB\_90755). image ... Google Scholar result for the

RRID (9/2014; [http://scholar.google.com/scholar?q=RRID:AB\\_90755](http://scholar.google.com/scholar?q=RRID:AB_90755))

reported RRIDs in the first 100 articles, by number of articles using the

Cited by 27 Related articles All 32 versions Cite Saved

The orexinergic neurons receive synaptic input from C

G Bochorishvili, T Nguyen, MB Coates... - Journal of ..., 2014 - Wiley

... TH mouse anti-sheep antibody (AB1542; Millipore; RRID:AB\_90755)

TH from rat pheochromocytoma. As reported by Millipore, this antibod

of approximately 60 kDa by western blot of mouse brain lysate. ...

Cited by 16 Related articles All 7 versions Cite Saved

Paper becomes data

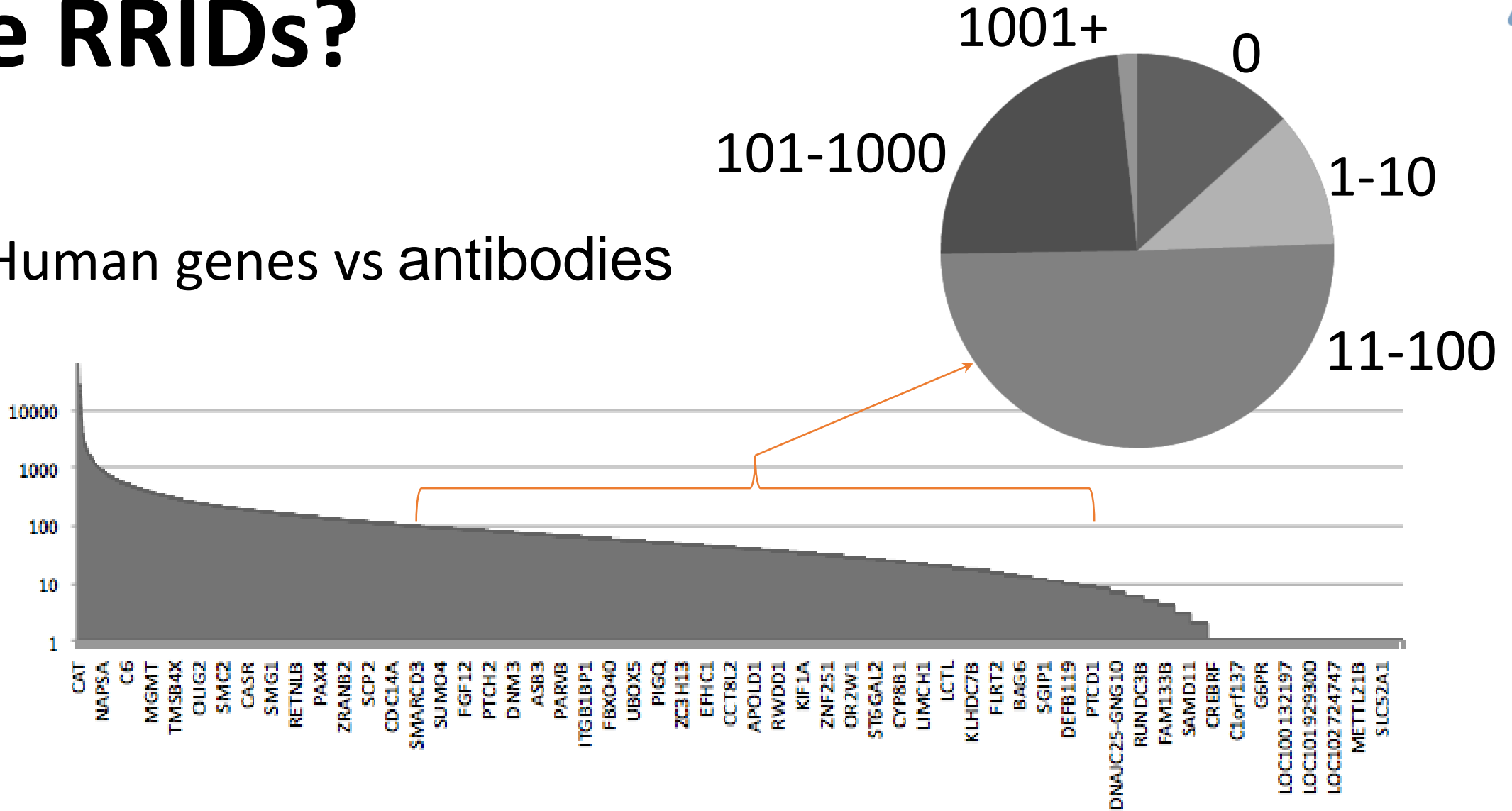
RRID portal includes:

- Antibodies 2.4M
- Organisms 600K (25 stock center/MODs)
- Cell lines 100K
- Software projects 15K

# How Comprehensive are RRIDs?



Human genes vs antibodies



eLife. 2016; 5: e14862.  
doi: [10.7554/eLife.14862](https://doi.org/10.7554/eLife.14862)

PMCID: PMC49354

**STOCK *Erc1*<sup>tm2.1Sud</sup>/J**

**Stock No:** 015830

 Targeted Mutation

OVERVIEW DETAILS ▾ GENETICS DISEASE/PHENOTYPE ▾ TECHNICAL SUPPORT ▾

## ELKS controls the pool of readily releasable vesicles at excitatory synapses through its N-terminal coiled-coil domains

ELKS2, which are both present at inhibitory active zones.

In the long-term, it will be important to understand how the synapse-specific control of RRP and P contribute to circuit function. Human genetic experiments and mutations in *ERC1/ELKS1* may contribute to autism spectrum disorders (Silva *et al.*, 2014), and it is possible that the pathophysiology arises from synapse-specific misregulation of neurotransmitter release.

### Materials and methods

#### Mouse lines

All experiments using mice were performed according to institutional guidelines at Harvard University. Conditional double knockout (cDKO) mice that remove the *ELKS1α/2α* proteins were generated by crossing conditional knockout mice for the ([Liu *et al.*, 2014] [RRID:IMSR\\_JAX:015830](https://doi.org/10.1038/nbt.2830)) and *Erc2* ([Kaeser *et al.*, 2009] [RRID:IMSR\\_JAX:015831](https://doi.org/10.1038/nbt.15831)) genes. *ELKS1α/2α* cDKO mice were maintained as do homozygote line.

#### Generation of antibodies

*ELKS2α* specific antibodies were raised in rabbits using an *ELKS2* peptide (<sup>109</sup>LSHTDVLSTYTDQ<sup>120</sup>). Peptides were synthesized and conjugated to keyhole limpet hemocyanin (KLH) via an N-terminal cysteine residue. Rabbits were inoculated at Cocalico Biologicals with KLH-conjugated *ELKS2* peptides and given booster injections every two weeks, and bleeds were collected every three weeks. Sera were screened for protein samples harvested from cultured neurons, brain homogenate, and transfecte

SciBotCurationGroup

scibot Jul 13

SciBotCurationGroup

IMSR\_JAX:015830

Proper Citation: RRID:IMSR\_JAX:015830

Name: STOCK *Erc1*<sup>tm2.1Sud</sup>/J

Affected Gene: *Erc1*

Availability: mouse cells

Catalog ID: JAX:015830

Database: [IMSR](#)

Genomic Alteration: tm2.1Sud

Name: STOCK *Erc1*<sup>tm2.1Sud</sup>/J

Notes: gene symbol note: ELKS/RAB6-interacting/CAST family member 1; mutant stock: targeted mutation 2.1, Thomas C Sudhof

Proper Citation: RRID:IMSR\_JAX:015830

Reference:

Species: *Mus musculus*

[resolver lookup](#)

RRID:IMSR\_JAX:015830

How to take the data out of papers?  
Hypothes.is

<https://blog.box.com/blog/introducing-developer-tokens/>

Data available!  
Tool access available!





# Mined data is used in several applications

SciBotCurationGroup

scibot Jul 13

SciBotCurationGroup

IMSR\_JAX:015830

Proper Citation: RRID:IMSR\_...  
Name: STOCK Erc1<sup>tm2.1Sud</sup>/  
Affected Gene: Erc1  
Availability: mouse cells  
Catalog ID: JAX:015830  
Database: [IMSR](#)  
Genomic Alteration: tm2.1Sud  
Name: STOCK Erc1<sup>tm2.1Sud</sup>/  
Notes: gene symbol note: ELKS/RAB6-interacting/CAST family member 1; mutant stock: targeted mutation 2.1, Thomas C Sudhof  
Proper Citation: RRID:IMSR\_JAX:015830  
Reference:  
Species: Mus musculus

[resolver lookup](#)

RRID:IMSR\_JAX:015830

Paper data in Hypothes.is

Secure [https://scicrunch.org/resolver/AB\\_2535792](https://scicrunch.org/resolver/AB_2535792)

Search for RRIDs

Donkey anti-Rabbit IgG (H+L) body, Alexa Fluor 488

RRID:AB\_2535792

DESCRIPTION USED IN LITERATURE

Antibody ID <a href="#">AB_2535792</a>	Target Antigen Rabbit IgG (H+L) Highly Cross-Adsorbed Rabbit	Vendor Thermo Fisher Scientific <a href="#">Go To Vendor</a>	Cat Num A-21206 also A21206
Proper Citation (Thermo Fisher Scientific Cat# A-21206, RRID:AB_2535792)	Reference <a href="#">References (21)</a>	Clonality polyclonal antibody	Host Organism donkey
Comments Applications: ICC (1-10 ug/ml), IF (1:2000), IHC (1-10 ug/ml), Flow (1-10 ug/mL); Reactive ... <a href="#">[more]</a>	Publications that use this research resource <ul style="list-style-type: none"><li>PMID:24029238</li><li>PMID:25485969</li><li>PMID:26181106</li><li>PMID:26196542</li><li>PMID:26299144</li></ul>		

RRID data is used in SciCrunch.org/resolver

also in xml  
[SciCrunch.org/resolver/AB\\_2535792.xml](https://scicrunch.org/resolver/AB_2535792.xml)



# Who does this?

## eLife joins the Resource Identification Initiative

Thursday, July 7, 2016 - 09:00

To promote reproducibility of research, the Resource Identification Initiative (#RII), a community-driven effort to improve reproducibility and unique Research Resource (RRID) resources.

Resources used in experiments are often a barrier to replicating the results. The Resource Identification Initiative (#RII), a community-driven effort to improve reproducibility and unique Research Resource (RRID) resources.

RRIDs must be machine-readable.

Home > Instructions to Authors > Endocrinology Instructions to Authors

### Antibody Table

It is the policy of *Endocrinology* to require authors using antibodies for immunohistochemistry, immunocytochemistry, western blots, immunoblots, immunoneutralization, or related methodology, to submit an Antibody table. This table should be numbered to indicate its position in the sequence of tables in the article (e.g. Table 1). In the Methods section

## Cell Press STAR Methods

Cell Press is pleased to introduce a new format for reporting methods that replaces the Methods format (Structured, Transparent, Accessible Reporting) will be introduced through journals. The format reflects the changing needs of the scientific community for increased improved rigor and reproducibility in research.

## JNeurosci

THE JOURNAL OF NEUROSCIENCE

RRIDS

JNeurosci encourages use of Research Resource Identifiers (RRIDs) through the project used in the course of scientific research. The project helps address concerns of researchers and RRIDs can be used to link readers to external resources and enable search engines.

To find an RRID: visit <https://scicrunch.org/resources> and enter your search term(s).

## nature

authors & referees

authors & referees > Policies > Availability of data, materials, code and protocols

- Antibodies: searching for the catalog number usually narrows the search to only a few results.
  - Cell Lines: searching for the catalog number of an established cell line is usually more difficult.
  - Organisms: you can include PubMed IDs (PMIDs) in your search or filter your search by organism.
  - Software tools: usually the name of the tool (MATLAB or ImageJ) or the institution that developed it.
- Search help is available at: [rri-help@scicrunch.org](mailto:rri-help@scicrunch.org).
- Once you have located an RRID, insert "RRID:" plus the identifier in the appropriate field of your manuscript.
- Antibodies: "Sections were stained with a rabbit polyclonal antibody against EF1A2 (RRID:AB\_233589) from Santa Cruz Biotechnology."

Site content

- Homepage
- Policies
  - Publication ethics & scholarly communication
  - Bioethics & Biosecurity
  - Availability of data, materials, code and protocols

### Availability of data, materials, code and protocols

An inherent principle of publication is that others should be able to reproduce authors' published claims. A condition of publication in a Nature Research article is that authors are required to make materials, data, code, and associated protocols available to readers without undue qualifications. Any restrictions on the availability of data, materials, code, and associated protocols must be disclosed to the editors at the time of submission or be disclosed in the submitted manuscript.

After publication, readers who encounter refusal by the authors to contact the chief editor of the journal. In cases where editors are unable to reach the authors, the chief editor of the journal will contact the authors to discuss the availability of data, materials, code, and associated protocols.

- ### Text Format
- The Methods and Resources section of a STAR Methods article should include the following information:
- CONTACT FOR REAGENTS AND MATERIALS
  - EXPERIMENTAL MODEL AND SUBJECT DETAILS
  - QUANTIFICATION AND STATISTICAL ANALYSIS
  - DATA AND SOFTWARE AVAILABILITY
  - ADDITIONAL RESOURCES
- ### Table Format

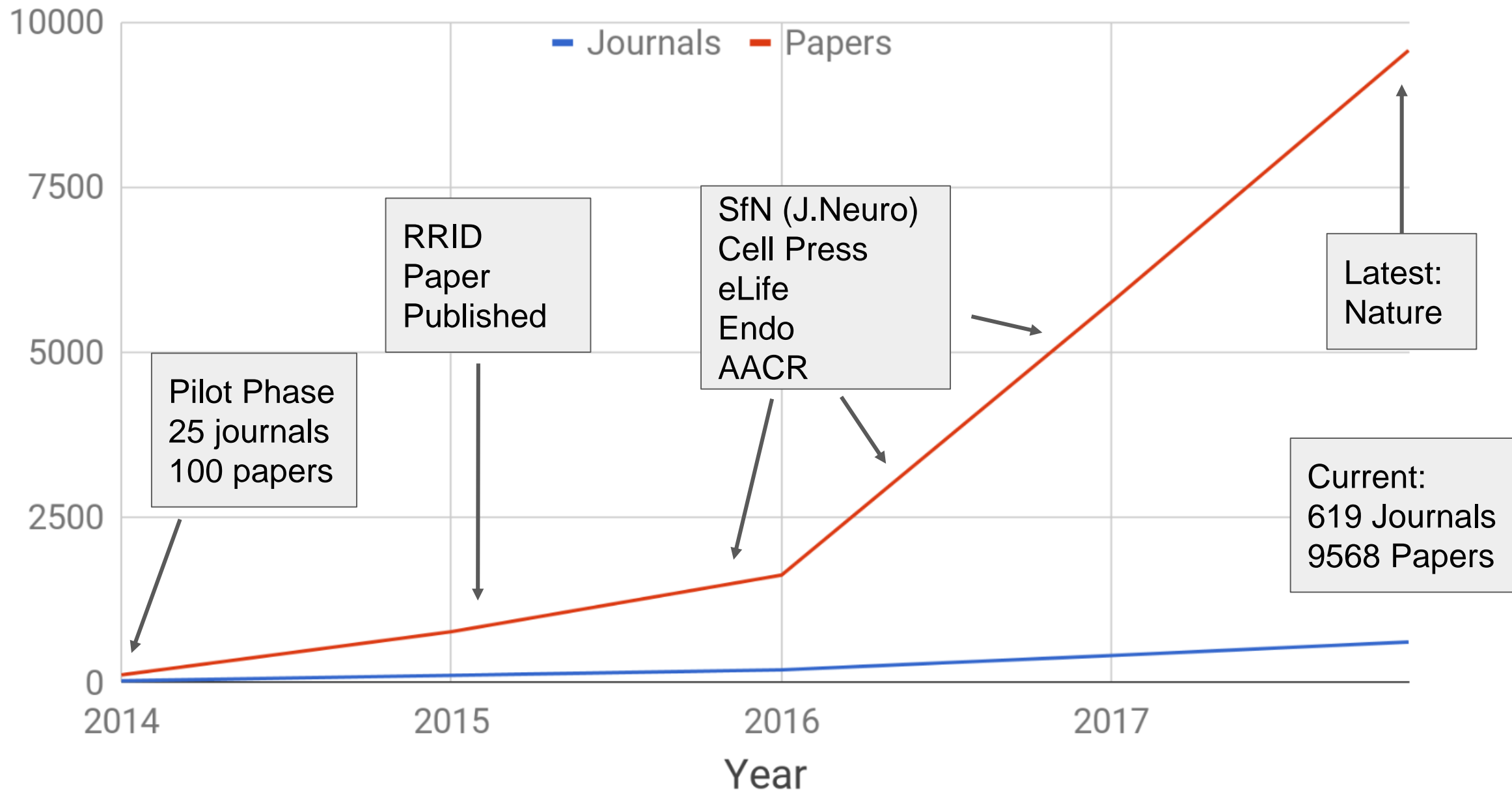
### METHODS AND RESOURCES

KEY RESOURCES TABLE

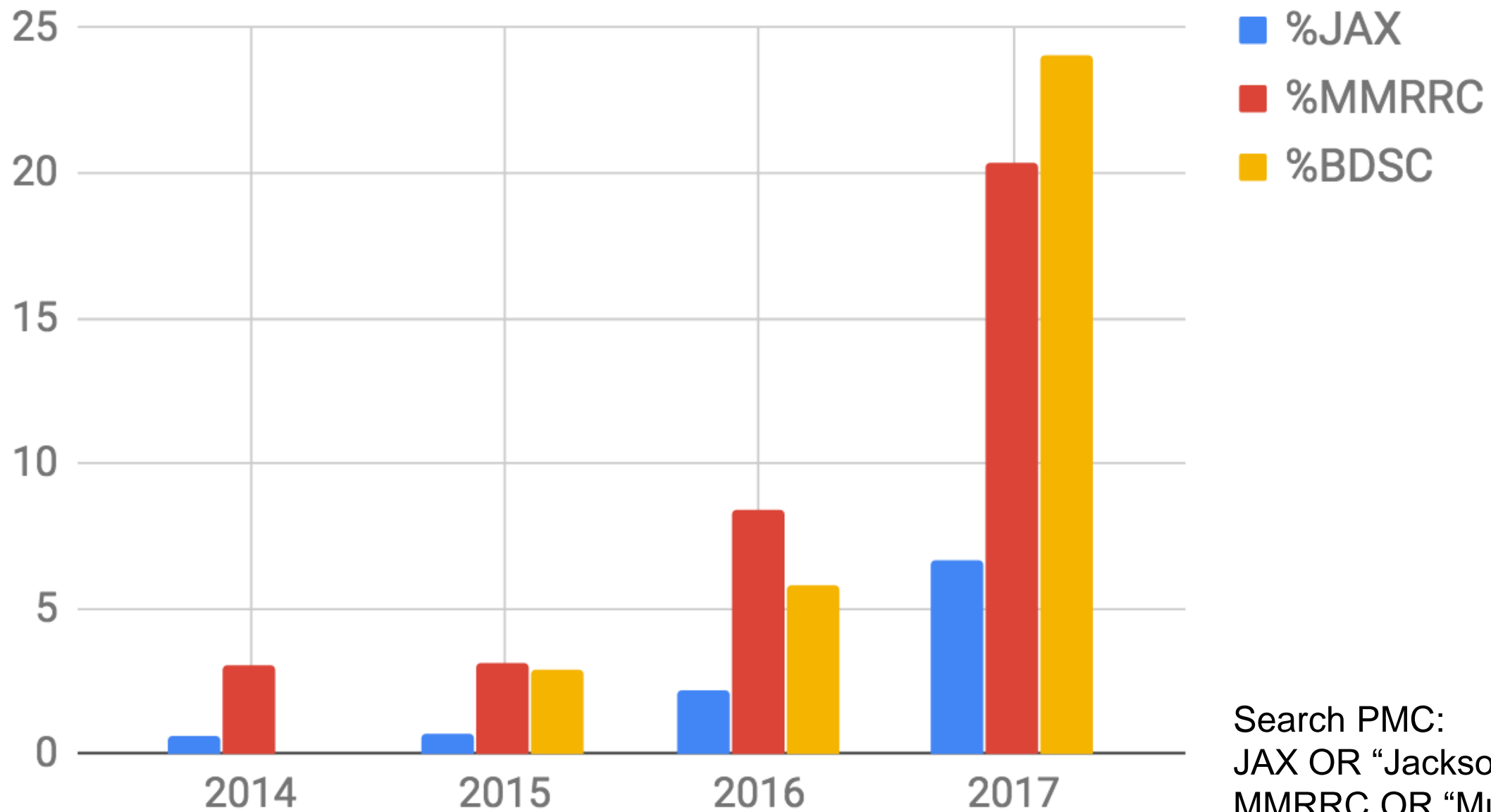
Reagent or Resource	Source	Identifier
Antibodies		
Rabbit monoclonal anti-SMA11.1	Abnova	N/A
Rabbit monoclonal anti-SER1	Cell Signaling	Cat. #3708, RRID: AB_5334567
Rabbit monoclonal anti-phospho-S6 (S422/S424)	Cell Signaling	Cat. #5364, RRID: AB_567654
Rabbit monoclonal anti-Phospho-S6K1 (Thr388)	Cell Signaling	Cat. #9234, RRID: AB_7539201
Mouse monoclonal anti-Phospho-S6K1 (Thr388)	Cell Signaling	Cat. #9206, RRID: AB_250173
SMAL1/5422 phospho-antibody	Sigma (gift prior to commercial release)	N/A
Mouse monoclonal anti-FLAG M2	Sigma	Cat. #F1804, RRID: AB_246805
EasyTag EXPRESS 350 Protein Labeling Mix	Perkin-Elmer	NEQ772014MC
SH-SY5Y assay	Kerafast	N/A
Rabbit Lysate FTI Kit	Invitrogen	#AM1200
Deposited Data		
Raw and analyzed data	this paper	DOI: 10.5554/7
Human reference genome NCBI build 37	NCBI	<a href="http://www.ncbi.nlm.nih.gov/projects/genome/assembly/grp/human/">http://www.ncbi.nlm.nih.gov/projects/genome/assembly/grp/human/</a>
Experimental Models: Cell Lines		
Neuronal strain, CHSE-135	Invitrogen	12292-016
Cell line: U2-OS Per2-Luciferase	John Hogenesch lab	N/A
Cell line: 293 T cells	ATCC	CRL-11268
Cell line: Phoenix Retroviral Packaging line	National Gene Vector Biorepository	N/A
Experimental Models: Organisms/Strains		
Mouse line: C57BL/6	Jackson Labs	001334, RRID: MGI:10398
Mouse line: Smart (SM-110-Ambion)Strat	Jackson Labs	006657, RRID: MGI:10398
Experimental Models: Cell Lines		
SMAL1 cDNA	GENET Archive	Clone #2061551
pFR_HCV_3b	Adigena	Plasmid #11510
ARQ21-Resy-GCAMP6-399RE	Chen et al., 2013	N/A
MG2-Flag-Luciferase neuronal vector	Tyler Jacka lab	N/A
Sequence-based Reagents		
See Table S1		
UNQ5GACUAGGGUACUCUCU-AGGGACUAGGGUACUCUCUAGGGGGA	this paper	
Probe ACTB (p006966)_q10	Life Technologies	#4331182
Probe BDNF (p00984230)_m10	Life Technologies	#4331182
Probe CCRN1 (p00639893)	Life Technologies	#4331182
Probe EEF2 (p00151235)_m10	Life Technologies	#4331182

Continued on next page

# Number of journals and papers published with RRIDs per year

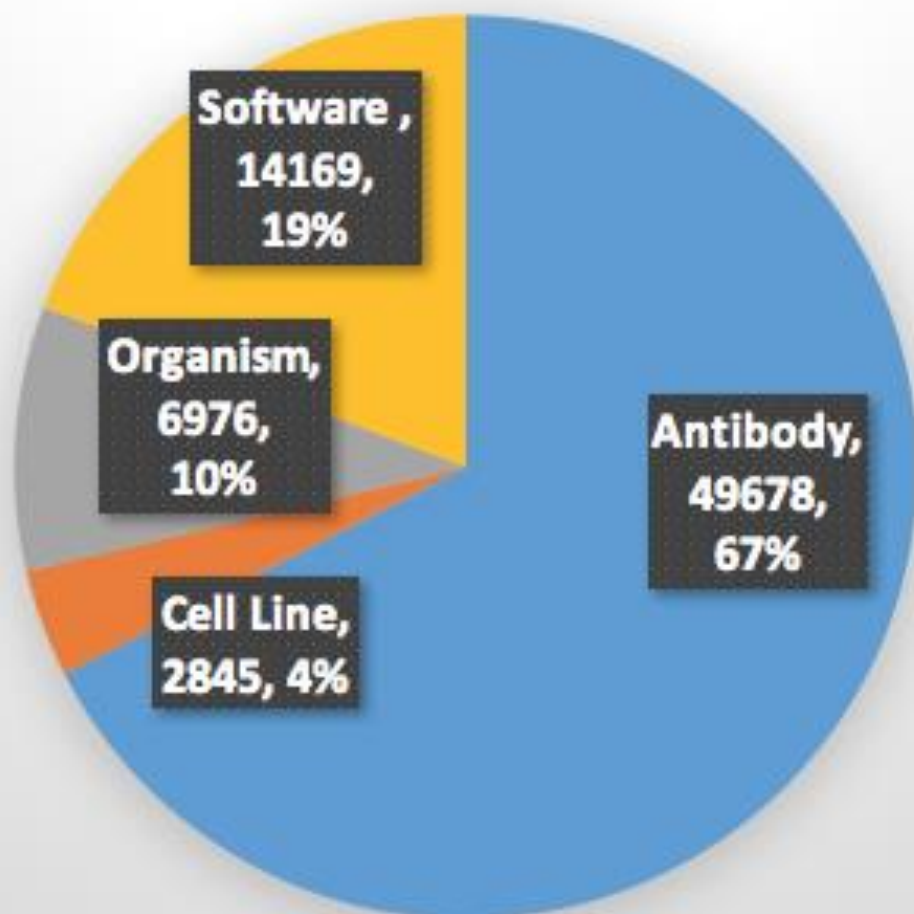


## Percent of RRID papers citing JAX, MMRRC and BDSC in PubMed Central



Search PMC:  
JAX OR "Jackson Labora  
MMRRC OR "Mutant Mou  
BDSC OR "Bloomington D

## Use of RRIDs in the literature



RRID	Tool Name	Papers
SCR_002798	GraphPad Prism	1026
SCR_003070	ImageJ	858
SCR_001622	MATLAB	604
SCR_001905	R Project	356
SCR_002285	Fiji	321
SCR_014199	Adobe Photoshop	283
SCR_002865	SPSS	221
SCR_008520	FlowJo	216
SCR_002427	ANOVA	165
SCR_005476	Bowtie	155
SCR_007370	Imaris	148
SCR_011323	pClamp	142
SCR_013035	TopHat	129
SCR_002105	SAMTOOLS	121
SCR_013672	ZEN Digital Imaging	104

RRIDs have been used in 9,568 papers (data from 7,681)

Data from Total RRIDs: 73,620



# ORCID

Connecting Research  
and Researchers

FOR RESEARCHERS

FOR ORGANIZATIONS

ABOUT

HELP

SIGN OUT

MY ORCID RECORD

INBOX


ACCOUNT SETTINGS

DEVELOPER TOOLS

LEARN MORE

 **AE Bandrowski**

**ORCID ID**

 [orcid.org/0000-0002-5497-0243](https://orcid.org/0000-0002-5497-0243)

[View public version](#)

 [Display your ID on other sites](#) 

 [Public record print view](#) 

 [Get a QR Code for your ID](#) 

 **Also known as**

Anita E Bandrowski, Anita

NIFSTD and neurolex: A comprehensive neuroscience ontology development based on multiple biomedical ontologies and community involvement

CEUR Workshop Proceedings

2011 | journal-article

URL: <http://www.scopus.com/inward/record.url?eid=2-s2.0-84891935325&partnerID=MN...>

Source: Scopus to ORCID

 Preferred source

The AntibodyRegistry Database

SciCrunch

2009 | other

RRID: [RRID:SCR\\_006397](#)

URL: <http://antibodyregistry.org>

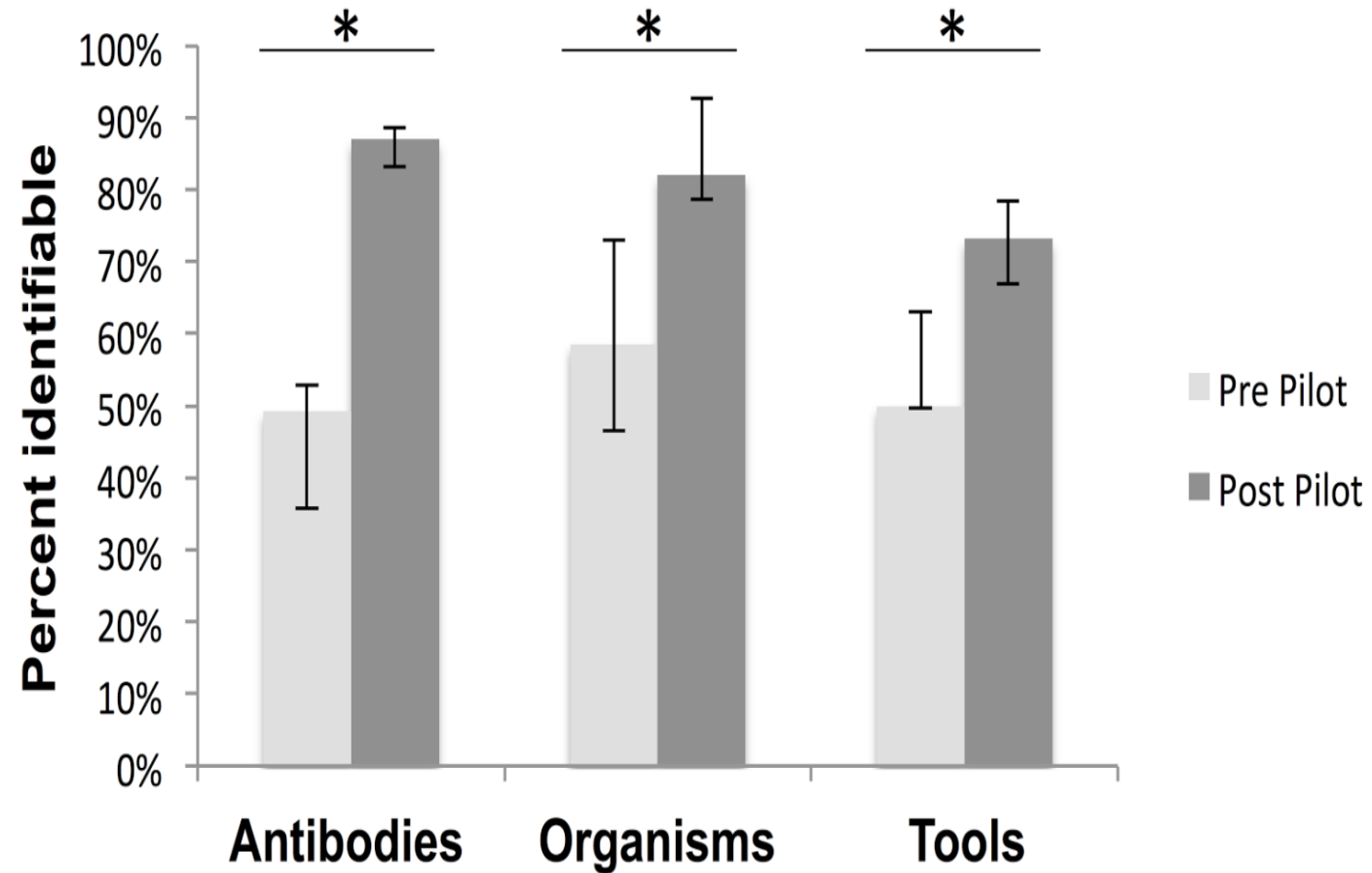
Source: AE Bandrowski

RRIDs now are allowed as  
“other” works in ORCID  
(full integration 2018)

Neuroscience Information Framework



# Resources are identifiable!





# WE WANT YOU!

## To use RRIDs in your research objects

## To add / ask for RRIDs (authors / reviewers) To bring your journal (editors)

Comments:  
abandrowski@ncmir.ucsd.edu

SIB EXPASy Bioinformatics Resource Portal Cellosaurus

Search Clear

**Cellosaurus HeLa (CVCL\_0030)**

<b>Cell line name</b>	HeLa
<b>Synonyms</b>	HELA; Hela; He La; He-La; Henrietta Lacks cells; Helacyt
<b>Accession</b>	CVCL_0030
<b>Resource Identification Initiative</b>	To cite this cell line use: RRID:CVCL_0030
<b>Comments</b>	Part of: Naval Biosciences Laboratory (NBL) collection (tr Omics: CNV analysis. Omics: Deep antibody staining analysis. Omics: Deep exome analysis. Omics: Deep glycome analysis. Omics: Deep proteome analysis.

ThermoFisher SCIENTIFIC Primary Antibodies antibody

<b>Form</b>	Liquid
<b>Concentration</b>	0.2 mg/mL
<b>Purification</b>	Protein G
<b>Storage buffer</b>	PBS, pH 7.4, with 0.2% BSA
<b>Contains</b>	0.09% sodium azide
<b>Storage conditions</b>	4° C
<b>RRID</b>	AB_10984338