



Introduction to protocols.io

Emma Ganley emma@protocols.io

Feb 9th, 2024

The Springer Nature logo, consisting of the word "SPRINGER" in blue and "NATURE" in red, both in a bold sans-serif font, set against a white background with a light blue border.

SPRINGER
NATURE



Housekeeping



We will record the webinar (registrants will receive a link to the recording and these slides)



Q&A will be at the end, but please add your questions in the Q&A or Chat during the webinar as they occur to you.



Check out our other webinars: <https://www.protocols.io/webinars>
Request a demo: <https://www.protocols.io/help/demo>



Agenda



- 1. Why Sharing Methods Matters**
- 2. Introduction to protocols.io**
Mission & Key Functionality
- 3. Navigating protocols.io**
Public repository
Create and share protocols
Publish protocols
Protocol Entry Service
- 4. Q&A**



Agenda




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Methods Are Frequently Lost

Biologists...

 **Morgan Halane**
@themorgantrail Folge ich


Looking for protocol in 1997 paper: "as described in (x) et al '96". Finds '96 paper: "as described in (x) '87." Finds '87 paper: Paywall.

[Tweet übersetzen](#)



21:20 - 1. Nov. 2017 aus [대한민국 포항시](#)

34 Retweets 96 „Gefällt mir“-Angaben



Physicists...

 **Daniel Gonzales**
@dgonzales1990 Folge ich

2017: "Devices were fabricated as previously described [ref 8]"

[ref 8] 2015: "Devices were fabricated as previously described [ref 4]"

[ref 4] 2013: "Devices were fabricated as previously described [ref 2]"

[ref 2] 2009: "Devices were fabricated with conventional methods"

[Tweet übersetzen](#)

13:16 - 17. Jan. 2018

230 Retweets 798 „Gefällt mir“-Angaben



28 230 798

Researchers cannot:

- Find,
- Access, or
- Replicate

**Experimental /
Methodological Details**

The Atlantic

How Reliable Are Cancer Studies?

January 18, 2017

The hardest part, by far, was figuring out exactly what the original labs actually did.

*Scientific papers come with methods sections that theoretically ought to provide recipes for doing the same experiments. But **often, those recipes are incomplete, missing out important steps, details, or ingredients. In some cases, the recipes aren't described at all;** researchers simply cite an earlier study that used a similar technique.*

Cancer Biology Reproducibility Project

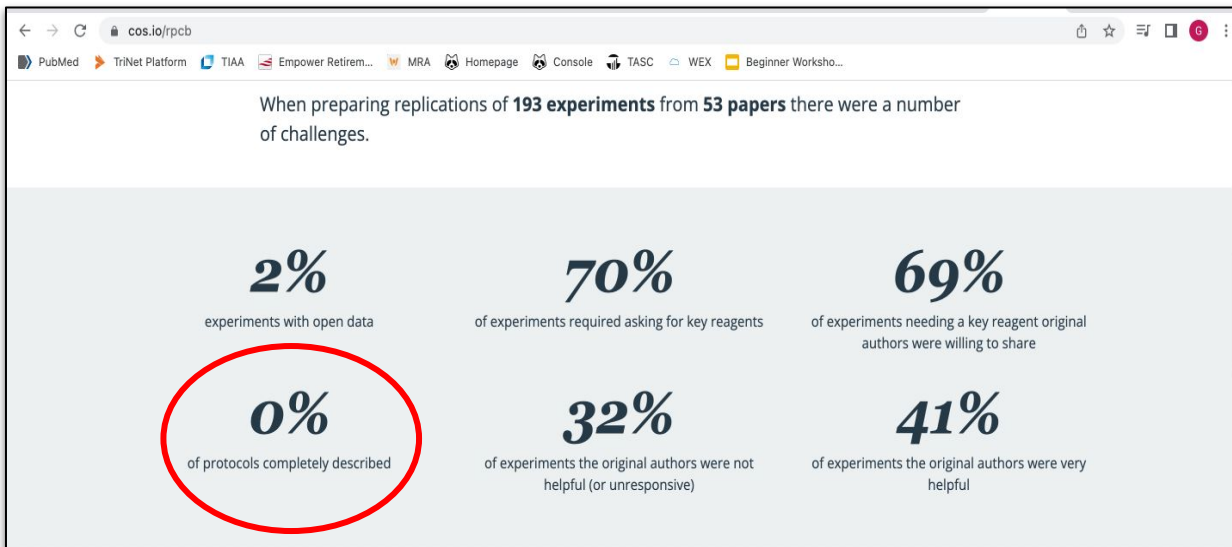
Repeating & building
upon previously
published work is hard





Cancer Biology Reproducibility Project

Papers / Researchers
do not have sufficient
information for
experiments to be
repeated





Methods Matter for Reproducible Research

IF Cookies == Data / Results

ANALYSIS OF

Size, Thickness, Texture,
Hardness, Flavour

CAN ONLY BE INTERPRETED IN CONTEXT OF THE TWEAKS

Too much flour or sugar,
Baking powder instead of
baking soda, etc.



These were all made by tweaking the same recipe. Rachel Askinasi/Insider

(Screenshot from
<https://www.insider.com/chocolate-chip-cookies-common-baking-mistakes-photos>)

Data Sharing needs Methods Sharing

If you share data, you need to also
share comprehensive methods
details



Image Attribution: CC-BY 2.0 José Manuel Suárez from Spain

A Drop in the Research Data Ocean

Research Data

*"Nothing in ~~Biology~~ Makes Sense Except
in the Light of ~~Evolution~~"*

How it was Generated

-- Theodosius Dobzhansky, 1973



Agenda

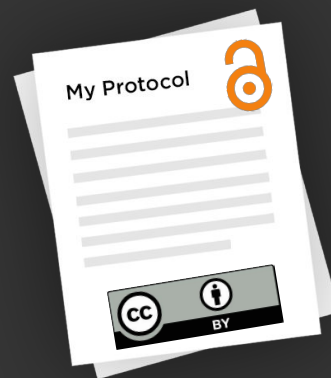


1. **Why Sharing Methods Matters**
2. **Introduction to protocols.io**
Mission & Key Functionality
3. **Navigating protocols.io**
Public repository
Create and share protocols
Publish protocols
Protocol Entry Service
4. **Q&A**



Overview: Mission of protocols.io

**Make it easy to share method details
before, during, and after publication.**





FAIR: Discover Protocols

Findable & Accessible

- Open access repository
- All research disciplines
- Collaborative tool
- Archived & Mirrored

Some stats

Total users:	>160,000
Total public protocols:	>16,700
Total private protocols:	>68,600
Average views/month:	>200,000
Visitors in 2022:	>1,000,000

The screenshot shows the protocols.io website homepage. At the top, there is a navigation bar with a menu icon, the protocols.io logo, a search bar, and user profile icons. The main heading reads "Bring structure to your research" with the tagline "A secure platform for developing and sharing reproducible methods." Below this is another search bar and a "Featured protocols" section. Three featured protocols are displayed with their respective images and titles: "High-throughput workflow for the genotypic characterization of tr...", "Single Cell and Single Nuclei Analysis Human Heart Tissue", and "C. elegans worm size measurement".

<https://protocols.io/welcome>



Publish your protocol, get a DOI link, place in your Materials and Methods

Methods and protocols for are available as a collection in protocols.io (DOI link)

PLOS BIOLOGY

OPEN ACCESS PEER-REVIEWED

RESEARCH ARTICLE

Commensal bacteria and essential amino acids control food choice behavior and reproduction

Ricardo Leitão-Gonçalves, Zita Carvalho-Santos, Ana Patrícia Francisco, Gabriela Tondolo Fioreze, Margarida Anjos, Célia Baltazar, Ana Paula Elias, Pavel M. Itskov, Matthew D. W. Piper, Carlos Ribeiro

Published: April 25, 2017 • <https://doi.org/10.1371/journal.pbio.2000862>

Article	Authors	Metrics	Comments	Media Coverage
<ul style="list-style-type: none"> Abstract Author summary Introduction Results Discussion Materials and methods Supporting information Acknowledgments References 				

nutritional–microbial–behavioral interactions and suggest the intriguing possibility that commensal bacteria influence behavior and brain function in invertebrates and tapping into the nutrient-sensing abilities of the nervous system.

Materials and methods

Methods and protocols for *Drosophila* rearing, media preparations, and microbiome analysis are available as a collection in protocols.io [dx.doi.org/10.17504/protocols.io.r89d9z6](https://doi.org/10.17504/protocols.io.r89d9z6)

Drosophila stocks and genetics

Unless stated otherwise, all experiments were performed with mated *w¹¹¹⁸* female flies. Ubiquitous (*tubulin-Gal4* [89]), pan-neuronal (*elav-Gal4* [90]), tracheal (*btl-Gal4* [91]), or fat body (*Cg-Gal4* [92], BL #7011) expression of RNAi delivering transgenes against *Henna* (CG7280) was achieved by crossing *Gal4*-expressing female flies with three independent UAS

Carlos Ribeiro / Publications / Methods and protocols from Goncalves et al. (2017) for manipulating the diet and the microbiome of *Drosophila*

Methods and protocols from Goncalves et al. (2017) for manipulating the diet and the microbiome of *Drosophila* V.2

Version 2
Jul 31, 2018

☆ Bookmark
📄 Copy / Fork

1 Works for me [dx.doi.org/10.17504/protocols.io.r89d9z6](https://doi.org/10.17504/protocols.io.r89d9z6)

Ribeiro Lab

Carlos Ribeiro
Champalimaud Centre for the Unknown

Abstract Protocols Metadata Metrics

ABSTRACT

This is a collection of methods and protocols from the manuscript: [Goncalves et al. Commensal bacteria and essential amino acids control food choice behavior and reproduction. Plos Biology. 2017 Apr 18.](#)

EXTERNAL LINK

<https://doi.org/10.1371/journal.pbio.2000862>

THIS PROTOCOL ACCOMPANIES THE FOLLOWING PUBLICATION



Links with Many Journals

Journals & Publishers

Recommending protocols.io on manuscript submission



500+ journals

Discover how you can include your protocol in an article to submit for peer review

PUBLISH RESERVE DOI POST DRAFT PEER REVIEW OPTIONS EDIT

Demo Example Protocol

Emma Ganley
protocols.io

- BMC Methods
- Nature Protocols
- PLOS One Lab Protocol

COMMENTS 0

RUN

Lab Protocols in PLOS ONE



The screenshot shows the top of the PLOS ONE website with navigation links (PUBLISH, ABOUT, BROWSE) and a search bar. The article title is "Vectorial application for the illustration of archaeological lithic artefacts using the 'Stone Tools Illustrations with Vector Art' (STIVA) Method" by Jacopo Niccolò Cerasoni. A yellow button labeled "See the protocol" is highlighted with a red arrow. Below the article title are tabs for Article, Authors, Metrics, Comments, Media Coverage, and Peer Review. The abstract is partially visible.

The screenshot shows the PLOS ONE Lab Protocols page for the STIVA method. It features a title "Stone Tools Illustrations with Vector Art: The 'STIVA' Method V.2", a version dropdown set to "Version 2", and a date of "Apr 19, 2021". The author is "Jacopo Niccolò Cerasoni" from the Max Planck Institute. A red arrow points from the "See the protocol" button in the previous screenshot to the "Stone Tools Illustrations with Vector Art" logo. The page includes a "Works for me" button, a "Share" button, and a "PLOS ONE Lab Protocols" badge. The abstract is visible, and a "Photograph Artefact" section is highlighted with a red vertical bar, containing a numbered list of steps.

The screenshot shows the table of contents for the article. The "Materials and methods" section is highlighted. The text reads: "The protocol described in this peer-reviewed article is published on protocols.io, [dx.doi.org/10.17504/protocols.io.bubqnsmw](https://doi.org/10.17504/protocols.io.bubqnsmw) and is included for printing S1 File with this article."

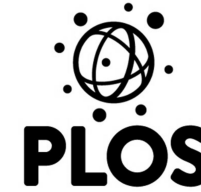
Abstract	
Introduction	
Materials and methods	The protocol described in this peer-reviewed article is published on protocols.io, dx.doi.org/10.17504/protocols.io.bubqnsmw and is included for printing S1 File with this article.
Expected results	While a variety of methods for lithic illustration already exist, with the application of the 'STIVA' method it is expected that users will produce publishable and user-friendly illustrations without
Supporting information	

Organizations encouraging use of protocols.io



Journals & Publishers

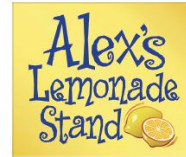
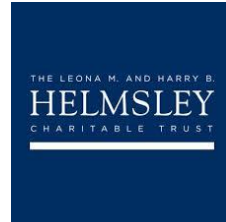
Recommending protocols.io on manuscript submission



500+ journals

Funders

Requiring or recommending protocols.io in grant guidelines/policies



Institutions

Campus licenses for more reproducible research and publications.



FRED HUTCH
CURES START HERE®

+ more



Facilitating Cross-Disciplinary Connections

 **Dr. Alejandro Montenegro** @aemonten · 11. Aug. 2017
 Looking for someone with experience doing RNA extraction (RNA-seq quality) from primary cortical neuron cultures. Anybody?

2 9 4

 **Elena MM, PhD** @ElenaMinones
 Antwort an @lteytelman @aemonten und @thatdnaguy
 I'd say from those @ProtocolsIO the basic should work, you need to adjust volume/ce (protocols.io/view/RNA-extra...)


Tweet übersetzen

 RNA extraction protocol (Trizol)
 This protocol describes how to extract total RNA from flatworms. It is from: Hebert, F, O; Gramba
 protocols.io

Hébert et al. *GigaScience* (2016) 5:24
 DOI 10.1186/s13742-016-0128-3

GigaScience

DATA NOTE Open Access

 CrossMark

Transcriptome sequences spanning key developmental states as a resource for the study of the cestode *Schistocephalus solidus*, a threespine stickleback parasite

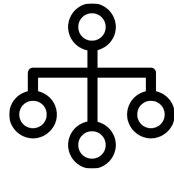
François Olivier Hébert^{1*}, Stephan Grambauer², Iain Barber², Christian R. Landry¹ and Nadia Aubin-Horth¹

Abstract
Background: *Schistocephalus solidus* is a well-established model organism for studying the complex life cycle of cestodes and the mechanisms underlying host-parasite interactions. However, very few large-scale genetic resources for this species are available. We have sequenced and *de novo*-assembled the transcriptome of *S. solidus* using tissues from whole worms at three key developmental states - non-infective plerocercoid, infective plerocercoid and adult plerocercoid - to provide a resource for studying the evolution of complex life cycles and, more specifically, how parasites modulate their interactions with their hosts during development.
Findings: The *de novo* transcriptome assembly reconstructed the coding sequence of 10,285 high-confidence unigenes from which 24,765 non-redundant transcripts were derived. 7,920 (77 %) of these unigenes were annotated with a protein name and 7,323 (71 %) were assigned at least one Gene Ontology term. Our raw transcriptome assembly (unfiltered transcripts) covers 92 % of the predicted transcriptome derived from the *S. solidus* draft genome assembly currently available on WormBase. It also provides new ecological information and orthology relationships to further annotate the current WormBase transcriptome and genome.
Conclusion: This large-scale transcriptomic dataset provides a foundation for studies on how parasitic species with complex life cycles modulate their response to changes in biotic and abiotic conditions experienced inside their various hosts, which is a fundamental objective of parasitology. Furthermore, this resource will help in the validation of the *S. solidus* gene features that have been predicted based on genomic sequence.
Keywords: Transcriptome, RNA-seq, *de novo* assembly, *Schistocephalus solidus*, Parasite, Cestode, Flatworm, Threespine stickleback, *Gasterosteus aculeatus*

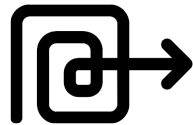
Accelerate Science

- Increase Discoverability
- Reproducibility
- Facilitate Research Connections
- Enable Reuse
- Enhance Value of Research

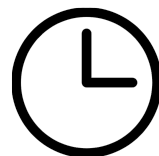
Key Benefits



Manage and Share Research Data and Protocols



Simplify Teamwork and Improve Collaboration



Save Time and Keep Work Organized



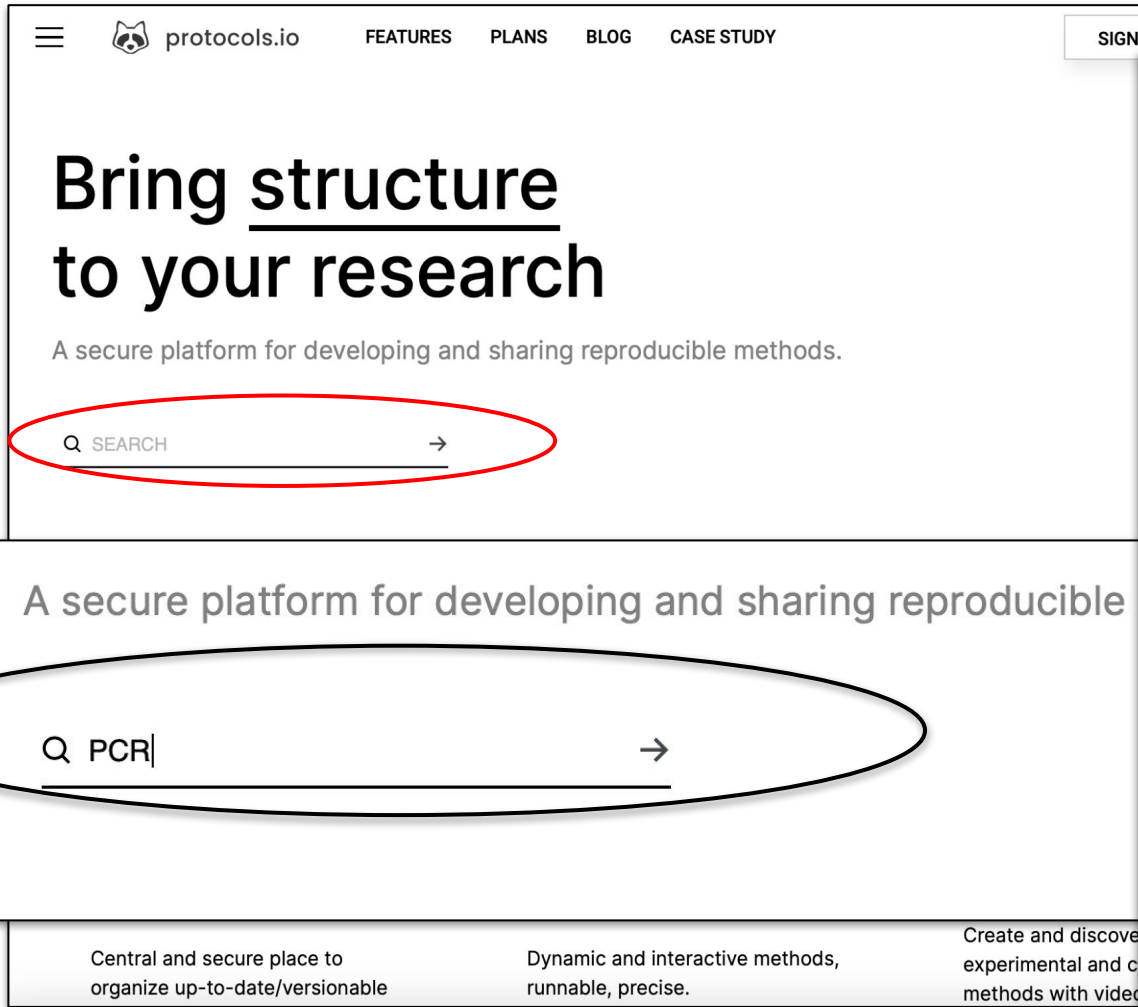
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3. **Navigating protocols.io - Demo if Internet OK!**
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Create and share protocols
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Public Repository: Search for Public Content



protocols.io FEATURES PLANS BLOG CASE STUDY

SIGN IN SIGN UP

Bring structure to your research

A secure platform for developing and sharing reproducible methods.

Q SEARCH →

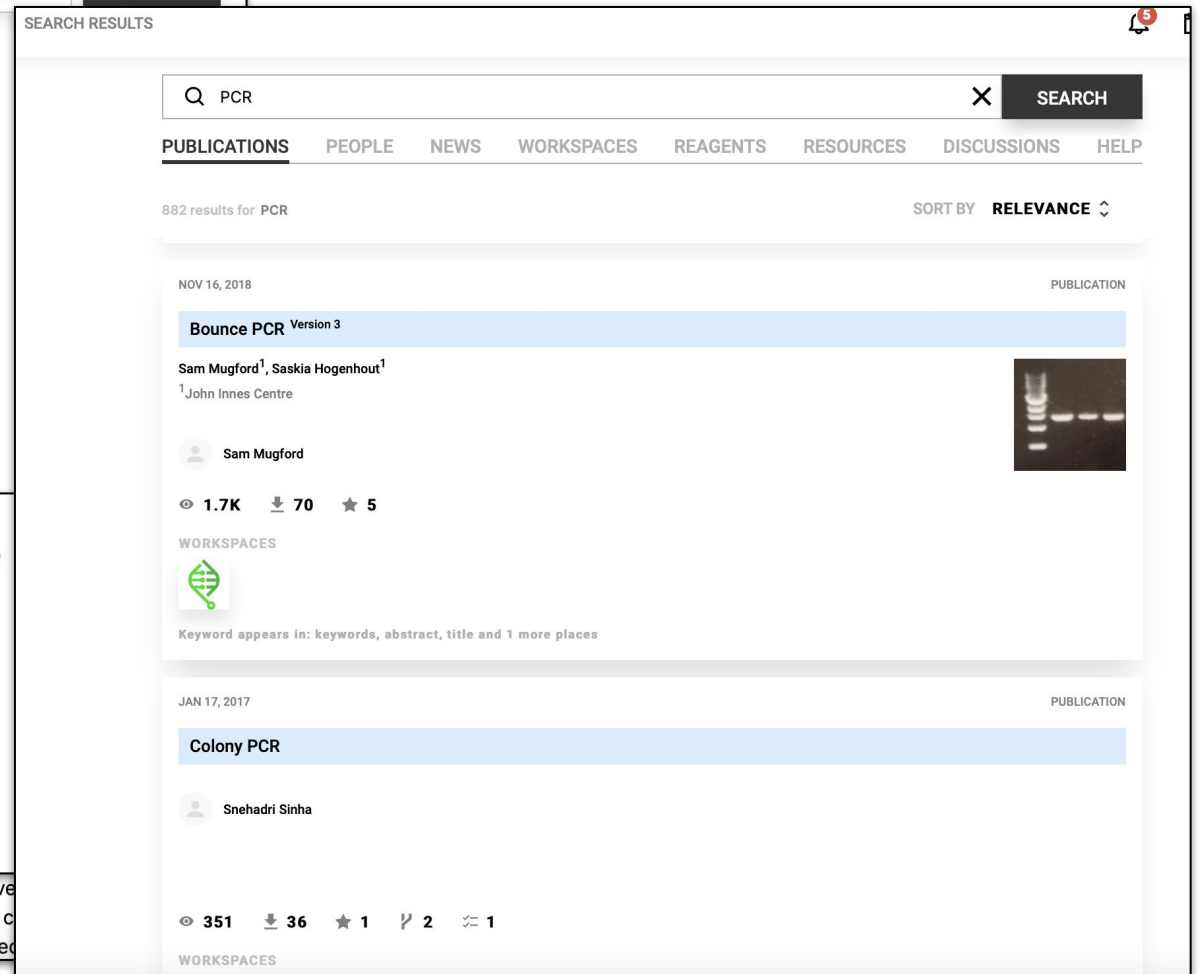
A secure platform for developing and sharing reproducible

Q PCR| →

Central and secure place to organize up-to-date/versionable

Dynamic and interactive methods, runnable, precise.

Create and discover experimental and methods with video



SEARCH RESULTS

Q PCR X SEARCH

PUBLICATIONS PEOPLE NEWS WORKSPACES REAGENTS RESOURCES DISCUSSIONS HELP

882 results for PCR SORT BY RELEVANCE ↕

NOV 16, 2018 PUBLICATION

Bounce PCR Version 3

Sam Mugford¹, Saskia Hogenhout¹
¹John Innes Centre

Sam Mugford

1.7K 70 5

WORKSPACES

Keyword appears in: keywords, abstract, title and 1 more places

JAN 17, 2017 PUBLICATION

Colony PCR

Snehadri Sinha

351 36 1 2 1

WORKSPACES

<https://protocols.io/welcome>

Find published protocols to run / fork

Public Repository: Search for Public Content



SEARCH RESULTS

organoid

PUBLICATIONS PEOPLE NEWS **WORKSPACES** REAGENTS RESOURCES DISCUSSIONS HELP

14 results for organoid SORT BY MEMBERS

- Neurodegeneration Method Development Community**
Antibody and affinity reagents for neurodegeneration, Single cell methods and analysis, Human tissue resources, Stem cell and organoid approaches
131 MEMBERS 108 PUBLICATIONS
Keyword appears in: research interests
- The HausslerSalama Wet Lab**
Organoids, KZNFs, TE's, NOTCH2NL
23 MEMBERS
Keyword appears in: research interests
- JAX Single Cell Biology**
10x Genomics, single cell, transcriptomics, scRNA-seq, snRNA-seq, snATAC-seq, spatial transcriptomics, IMC, CODEX, MERFISH
14 MEMBERS 7 PUBLICATIONS
Keyword appears in: description
- QuadBio**
single-cell genomic, imaging, computational tools, organoid, development, regeneration
7 MEMBERS 5 PUBLICATIONS
Keyword appears in: research interests
- organoid**
1 MEMBER
Keyword appears in: title
- CHOP Gastrointestinal Epithelium Modeling Program**
patient derived organoids, 3D culture, personalized medicine, intestine, esophagus
3 MEMBERS 1 PUBLICATION
Keyword appears in: research interests
- Organoid and Assembloid**
15 MEMBERS 25 PUBLICATIONS
Keyword appears in: description, title

PREMIUM Organoid and Assembloid

SEARCH

TIMELINE ABOUT PUBLICATIONS 25 MEMBERS 15 DISCUSSIONS MORE

organoid

MEMBERS 15 JOIN

MORE ↓

NOVEMBER 28, 2022

JUL 14, 2020 PUBLICATION

Duke - Isolation, Culture, and Maintenance of Patient-Derived Tumor Biopsy Version 2

Xiling Shen¹, Marcos Negrete¹, Kun Xiang¹
¹Duke University, Department of Biomedical Engineering

Shree Bose

533 242 3

AUG 12, 2022 PUBLICATION

Isolation of trophoblast organoids from full-term human placenta tissue

Carolyn Coyne¹, henry.yang¹
¹Duke University

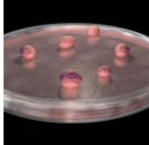
Carolyn Coyne

234 1

AUG 17, 2022 PUBLICATION

Passaging of trophoblast organoids from full-term placental tissue.

Carolyn Coyne¹, henry.yang¹
¹Duke University



Find and join public workspaces relevant to your research



Sign up for an account:

protocols.io FEATURES PLANS BLOG CASE STUDY

SIGN IN SIGN UP

Bring structure to your research

A secure platform for developing and sharing reproducible methods.

Q SEARCH →

procedures safety checklists instructions / manuals biology chemistry computational workflow

Organize & collaborate
Central and secure place to organize up-to-date/versionable

Accelerate research
Dynamic and interactive methods, runnable, precise.

Avoid mistakes
Create and discover reproducible experimental and computational methods with video, reagents,

protocols.io

Create your account

Email

Password

I'm okay with occasional emails about protocols.io.

CREATE FREE ACCOUNT

By signing up you are agreeing to our [Terms of Service and Privacy Policy](#)

OR

SSO CONTINUE WITH SSO

ID CONTINUE WITH ORCID

G CONTINUE WITH GOOGLE

Already have an account? [SIGN IN](#)

About Terms Privacy Contact

Check if your organisation has a license:
<https://protocols.io/institutions>

Check If Your Organization Already Has Premium Access

SELECT ORGANIZATION

- Carnegie Mellon University
- UC Berkeley
- UC Lawrence Berkeley National Laboratory

<https://protocols.io/welcome>



User Account Options

Open Research Free Account

- Two private protocols
- Unlimited public protocols
- Unlimited public workspaces
- Unlimited public versions and forks
- Long term preservation
- Basic Support

Individual Premium Workspace

- Everything in Open research
- PLUS:
- Unlimited private protocols
- Private and secure workspace
- Training
- Dedicated Support
- Plus more...

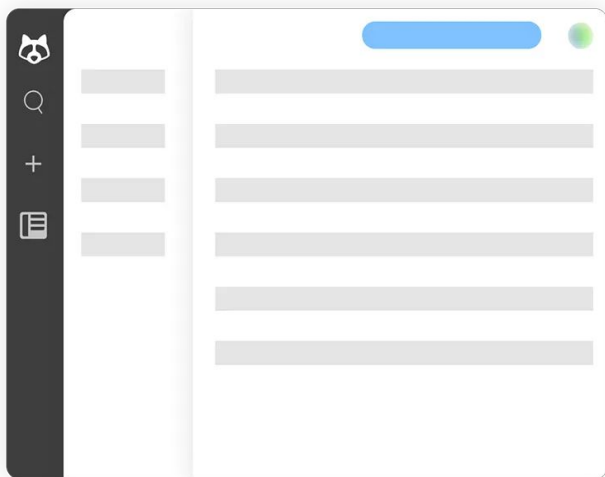
Institutional License

- Everything in Open research
- PLUS:
- Unlimited private protocols
- Unlimited private workspaces
- Protocol import service
- SAML single sign-on
- Training webinars
- Plus more....



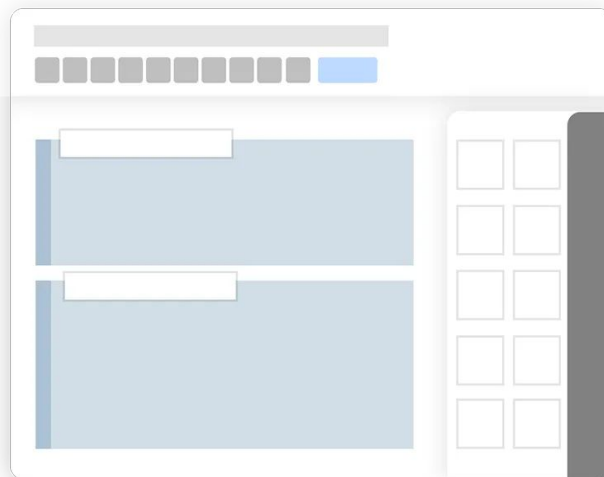
Using protocols.io

File Manager



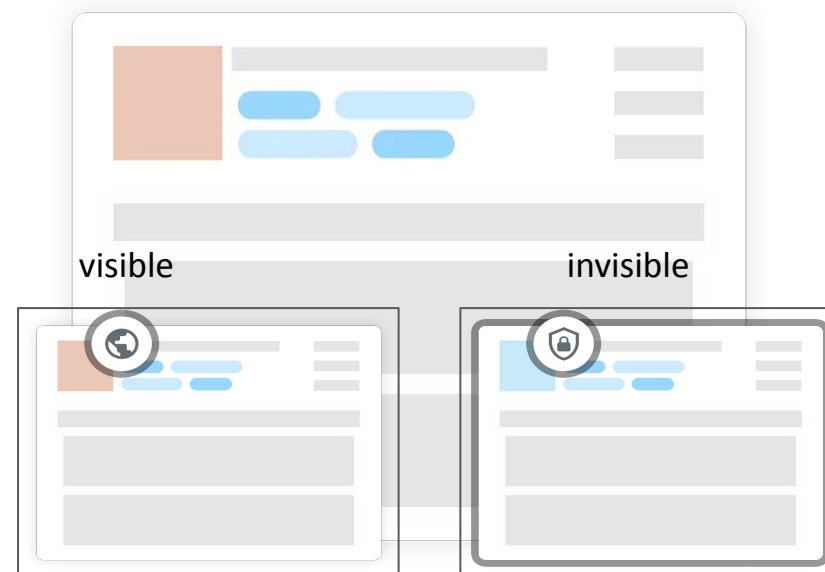
Access all workspaces
Arrange folders / files

Protocol / Document Editor and Viewer



Develop protocols
Edit / Comment

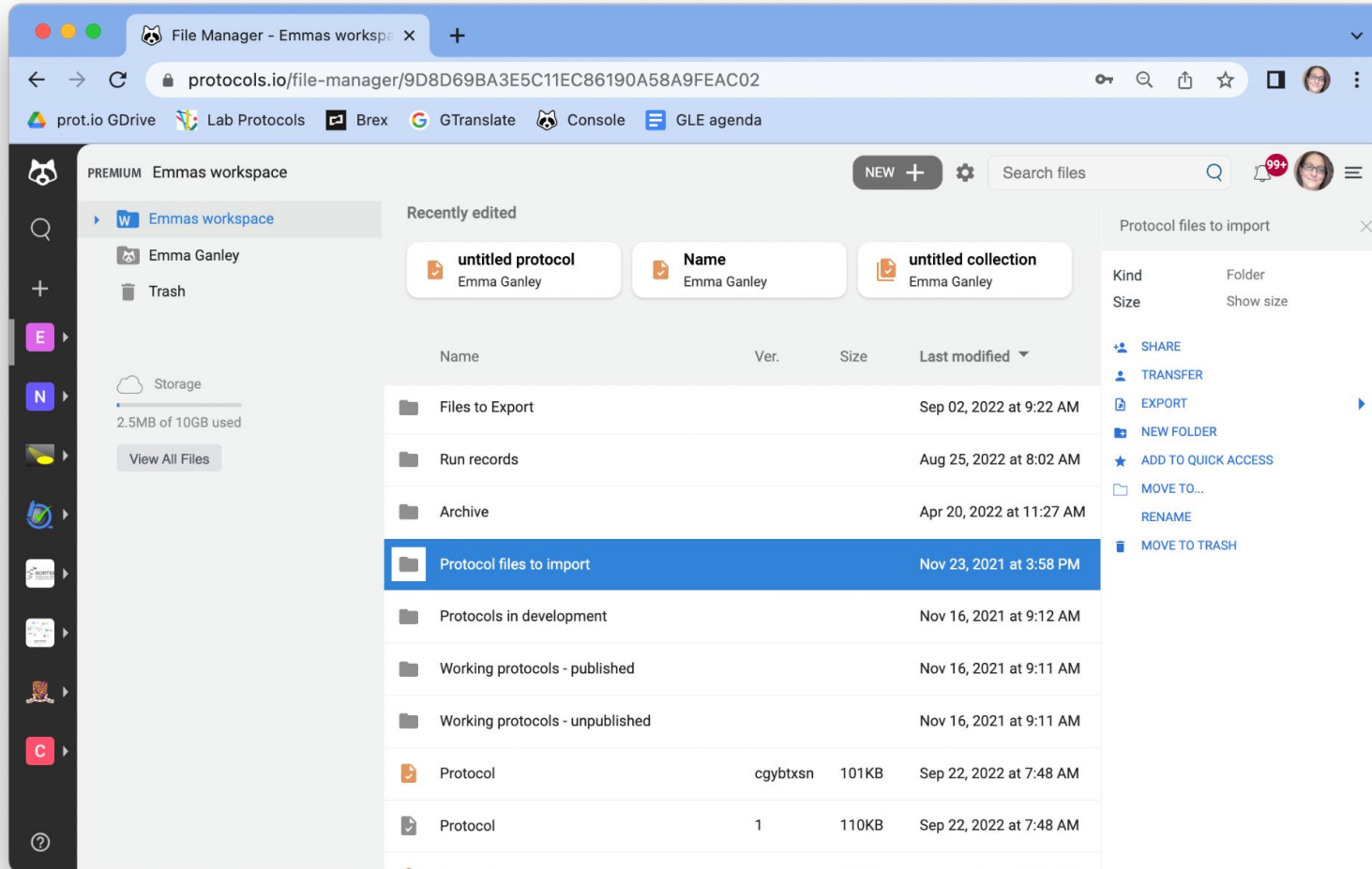
Workspace Profile



Interact with team members
Discussions / resources



Navigating protocols.io: File Manager



Access all workspaces
Arrange folders / files

- Supports any file type
- Archiving, auditing, exporting
- Connect to Dropbox, One Drive, Box, OSF, LabArchives ...
- Enterprise grade security and backup functionality



Navigating protocols.io: Workspace Profile

Groups / Coronavirus Method Development Community / Publications

Coronavirus Method Development Community


Open Community

INTERESTS
coronavirus, SARS-CoV-2, 2019-nCoV, Severe acute respiratory syndrome coronavirus 2, SARS, nCoV, COVID-19, virus, pandemic, viral, virology

- + NEW
- GROUP FOLDER (37)
- TASKS
- EXPORT GROUP PUBLICATIONS
- CONTACT ADMIN
- INVITE PEOPLE

Timeline About **Publications 71** Members 354 Discussions 195 Resources 21 News 6


CATEGORY: All publications SORT BY: Date Search

 **Viral RNA extraction low-cost protocol optimized for SARS-Cov2 at AGROSAVIA**
Alejandro Caro-Quintero¹, Roxana Yockteng¹
¹AGROSAVIA/Universidad Nacional de Colombia
May 16, 2020

Coronavirus Method Development Community
Reclone.org (The Reagent Collaboration Network)

CONTACT
Alejandro Caro-Quintero


15 views ...

 **The Crick COVID-19 RT-PCR Testing Pipeline**
The Crick COVID-19 Consortium¹
¹The Francis Crick Institute, Health Services Laboratory (HSL), University College London Hospital
May 16, 2020

Coronavirus Method Development Community
Crick COVID-19 Consortium


CONTACT
Jerome Nicod

207 views ...

 **SARS-CoV-2 detection using BGI RT-PCR kit**
Wei-Ting Lu¹, Ming Jiang¹, Robert Goldstone¹, Karen Ambrose¹, Chris Ekin², Amy Strange¹, Nnenna Kanu³, Paul...
¹The Francis Crick Institute, ²Health Services Laboratories, ³University College London
May 16, 2020

Coronavirus Method Development Community
Crick COVID-19 Consortium

CONTACT
Jerome Nicod

 **Kit-free automated RNA extraction for SARS-CoV-2 testing**
Efthymios Fidanis¹, Maria Greco¹, Amelia Edwards¹, Margaret Crawford¹, Laura Cubitt¹, Sophia Ward¹, Robert Goldstone¹, ...
¹The Francis Crick Institute, ²University College London, ³The Institute of Cancer Research, The Royal Marsden Hospital
May 16, 2020

Coronavirus Method Development Community
Crick COVID-19 Consortium

CONTACT



File Manager ↔ Workspace Profile

The image displays the Protocols.io interface, illustrating the relationship between a workspace profile and its file manager. On the left, a sidebar menu for the 'Emmas workspace' is shown, with the 'WORKSPACE PROFILE' option circled in red. This menu includes options for 'SEARCH PROTOCOLS.IO', 'NEW WORKSPACE', 'NEW PROTOCOL', 'ADMINISTRATION', 'WORKSPACE FOLDER', 'WORKSPACE PROFILE', 'TASKS', and 'MANAGE REAGENTS'. The main content area shows the workspace profile for 'Emmas workspace', which includes a search bar, a list of members (1), and a 'NEW' button. Below this, there are options for 'WORKSPACE FOLDER', 'WORKSPACE SETTINGS', 'TASKS', 'MANAGE REAGENTS', and 'ADMINISTRATION'. On the right, the file manager interface is shown, displaying a list of files and folders. The 'FILES' section includes a table with columns for NAME, VER., SIZE, LAST MODIFIED, and OWNER. The table lists various files and folders, including 'Files to Export', 'Run records', 'Archive', 'Protocol files to import', 'Protocols in development', 'Working protocols - published', 'Working protocols - unpublished', 'untitled protocol', 'My Collection', and 'Emmas copy of CU...'. The 'STORAGE' section shows 20.7MB of 10GB used. The 'VIEW ALL FILES' button is visible at the bottom.



Workspace Administration

MENU → ✕

SEARCH PROTOCOLS.IO

NEW WORKSPACE

NEW PROTOCOL

E Emmas workspace 🔒 ⤴

⚙️ ADMINISTRATION ⤴

- WORKSPACE SETTINGS
- MANAGE MEMBERS
- MANAGE ACCESS
- MANAGE CATEGORIES
- FILE MANAGER INSTRUCTIONS
- REMOVE PUBLICATIONS
- NOTIFY MEMBERS

📁 WORKSPACE FOLDER

👤 WORKSPACE PROFILE

📁 TASKS

🔗 MANAGE REAGENTS

PREMIUM Emmas workspace / Settings

SEARCH 🔔 53 📅

[← BACK TO WORKSPACE](#) SAVE AND CLOSE SAVE CHANGES

Workspace Profile Photo
Recommended size: 500x500 px

BASIC INFO

Workspace name
Emmas workspace

Workspace URL
https://protocols.io/workspaces/emmas-workspace

WORKSPACE DESCRIPTION Subscribe

B I x^2 x_2 Σ



Workspace Administration

ADVANCED OPTIONS ↓

VISIBILITY SETTINGS
CHOOSE WHO CAN ACCESS TO THE GROUP

Public
Your workspace will appear in search results and its members will be listed on the workspace profile

Private/Internal
The workspace will be visible only to you and members of the workspace that you invite

WORKSPACE MEMBERSHIP

Open to all
Anyone may join this group

By request
Anyone may ask to join but you control who gets in

By invitation only
Only you and the members of the workspace will see the workspace

Allow members to invite anyone to the workspace
Visible to my organization

INVITATION LINK ⓘ

<https://www.protocols.io/joinworkspace/emmas-new-workspace/EMVKL> **GENERATE NEW LINK**

- Secure file sharing
- Task Manager
- Reagent Manager
- Workspace Visibility
- Manage Workspace Members
 - Invite colleagues
 - Generate a join link
 - Control permissions
- Configure Workspace Permissions

Manage members

CONFIRMED (1) INVITED (1)

INVITE PEOPLE

Joined ▾

Notifications: 1 ▾ Nov 05, 2021

Invite people

Email addresses

Type and press enter to add emails

Invite followers or people you follow (search protocols.io)

Type to search users

Note (optional)

<https://www.protocols.io/joinworkspace/emmas-new-workspace/EMVKL>

Generate a new link

CANCEL INVITE



Create a Protocol: The Editor

Navigation bar with icons for info, search, notifications (53), and a user profile picture.

NEW +

- New folder
- New protocol
- New collection
- New document
- Upload files

Table of recent items:

LAST MODIFIED
Sep 02, 2022 at 9:
Aug 25, 2022 at 8:
Apr 20, 2022 at 11:
Nov 23, 2021 at 3:58 PM

New

workspace: **E** Emmas workspace ▾

- Emmas workspace
 - Working protocols - unpublished
 - Working protocols - published
 - Run records
 - Protocols in development
 - Protocol optimization runs
 - Protocol files to import
 - Files to Export
 - Archive
- Emma Ganley

Create a protocol that fits any need

- Generic protocol
- Biology protocol
- Computational Workflow
- Chemistry method

CREATE

untitled protocol

STEPS DESCRIPTION GUIDELINES & WARNINGS MATERIALS

NEW STEP

NEW SECTION

If you have an existing protocol you can [insert steps from a text file](#)

NEW FOLDER **CONTINUE**

Right sidebar: **Biology** ▾

- Amount
- Concentration [M]
- Temperature
- Duration
- Protocol
- Document
- Equipment
- Reagent
- Citation



Navigating protocols.io: The Editor

Detailed Components

Granular Editing history

Concurrent Editing

Colour Coded Sections

Step-by-step format

Existing Protocol: Copy/Paste into protocols.io



The screenshot displays the protocols.io interface for editing an "untitled protocol". The main editor area contains a list of six steps:

- 1 [Prepare the RNP complex from IDT] Combine 1 uL Alt-R™ CRISPR/Cas9 tracrRNA – ATTO™ 550 (100 uM) + 1 L Alt-R™ CRISPR/Cas9 crRNA (100 uM) + 18 uL IDT Nuclease Free Buffer Note: the concentrations can and should be adjusted to determine optimal [RNP] and Cas9:gRNA ratios
- 2 Incubate at 95°C for 5 minutes, let cool to room temperature on bench
- 3 Meanwhile, combine 2.67 uL Alt-R Cas9 Enzyme (61 uM) + 37.33 uL IDT Nuclease Free Buffer
- 4 Form RNP complex by combining 1-part gRNA (part 1) and 1-part Cas9 (part 3) and let incubate at room temperature for 20 mins. Note: RNP complexes can be kept at 4°C for a month or 5 months at -80°C
- 5 [Collecting O. marina] Concentrate healthy Oxyrrhis marina cells using a flashlight. Make sure that under green light the cells have no background fluorescence (this may require not feeding them for some time)
- 6 Count cell concentration of these healthy cultures using a Sedgewick Rafter Counting Chamber. Goal is to use 200,000 cells/well for electroporation

The interface includes a sidebar with various icons, a top navigation bar with tabs for STEPS, DESCRIPTION, GUIDELINES & WARNINGS, REFERENCES, and MATERIALS, and a right-hand component palette with categories like Amount, Sample, Duration, Protocol, Document, Equipment, Citation, Note, Safety Information, Expected Result, Geo. Coordinates, Smart Component, Goto, Cost, Relative Humidity, and Well Plate Map. A red oval highlights the text "If you have an existing protocol" in the left sidebar. A "PREVIEW" button is visible in the bottom right corner of the editor area.



Include as much information as possible

Example protocol

Steps Description Guidelines & Warnings Materials VIEW SHARE MORE All changes saved

Protocol image

Change image

Abstract

Write the relevant info for your abstract here - place your title and keywords here

Lorem ipsum dolor sit amet, consectetur adipiscing aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.

Funders Acknowledgement

Name Grant ID

Add Attachment

Steps Description Guidelines & Warnings Materials VIEW SHARE MORE

Enter several author names separated by commas. Add myself as an author

Keywords help to discover your protocol, separated by commas.

External link

Manuscript citation

Image Attribution

Disclaimer

Make sure to add broad keywords to help find this protocol in the future

Don't show this again

Steps Description Guidelines & Warnings Materials VIEW SHARE MORE All changes saved

Guidelines

Before start

Safety Warnings

Sensitive Content Warning

Confidential

Steps Description Guidelines & Warnings Materials VIEW SHARE MORE All changes saved

Materials



Insert or Embed Images and/or Movies

The screenshot shows the protocols.io editor interface. At the top, there's a navigation bar with tabs for 'Steps', 'Description', 'Guidelines & Warnings', and 'Materials'. Below this is a toolbar with various editing tools. The main content area shows a step titled 'Introduction' with a sub-step '1 Add details about background and rationale here' An 'Embed media' dialog box is open, prompting the user to 'Paste your embed code below:'. Below this, an 'Embed Video' modal is shown, displaying a YouTube embed code snippet:

```
<iframe width="560" height="315" src="https://www.youtube.com/embed/Ct-100UqmyY" title="YouTube video player" frameborder="0" allow="accelerometer; autoplay; clipboard-write; encrypted-media; gyroscope; picture-in-picture" allowfullscreen></iframe>
```

At the bottom of the modal, there is a checkbox labeled 'Start at 0:00'.

Click share on YouTube, then Embed, copy and paste the embed code into protocols.io and then click Save.

Two video player screenshots are shown. The top one is titled 'Squats front view' and shows a person performing a squat in a gym setting. The bottom one is titled 'Squats lateral view' and shows the same person from a side angle. Both players have a progress bar and a play button.

COPY



Export Protocols and Run Records

From the file manager:

From the protocol:

The screenshot shows the 'SHARE' menu in the protocol editor. The menu options are: Post draft, Reserve DOI, Publish, Print, PDF, JSON, Export, to your computer, to Dropbox, to Google Drive, to One Drive, to Box, to OSF, and to LabArchives.

The screenshot shows the file manager interface with the 'EXPORT' menu open. The menu options are: EXPORT, PRINT, JSON, PDF, TO YOUR COMPUTER, COPY TO DROPBOX, COPY TO GOOGLE DRIVE, COPY TO BOX, COPY TO ONEDRIVE, COPY TO OSF, and COPY TO LABARCHIVES.

NAME	VER.	SIZE	LAST MODIFIED
Files to Export			Sep 02, 2022 at 9:22 AM
Run records			Aug 25, 2022 at 8:02 AM
Archive			Apr 20, 2022 at 11:27 AM
Protocol files to import			Nov 23, 2021 at 3:58 PM
Protocols in development			Nov 16, 2021 at 9:12 AM
			Nov 16, 2021 at 9:11 AM
			Nov 16, 2021 at 9:11 AM
cmt2u6qe	27KB		Jan 16, 2023 at 11:40 AM
cmtuu6nw	23KB		Jan 16, 2023 at 11:39 AM
detected in situ gen...	cmtzu6p6	1MB	Jan 16, 2023 at 11:34 AM
cmtvu6nw	193KB		Jan 16, 2023 at 11:31 AM

ELN Integrations
- Export from protocols.io to your LabArchives notebook
- Import your protocols into RSpace or SciNote accounts

Sharing, Posting, Publishing Protocols



Emma Copy SalivaDirect™: RNA extraction-free SARS-CoV-2 diagnostics

VIEW SHARE MORE ↓

- Post draft
- Reserve DOI
- Publish
- Export >
- Move to trash

When Editing

Workspaces / Emmas workspace / Protocols in development / Emma Copy SalivaDirect™: RNA extraction-free SARS-CoV-2 diagnostics

SEARCH

SHOW TABLE OF CONTENTS

PUBLISH RESERVE DOI POST DRAFT PEER REVIEW OPTIONS EDIT

Emma Copy SalivaDirect™: RNA extraction-free SARS-CoV-2 diagnostics

Forked from SalivaDirect™: RNA extraction-free SARS-CoV-2 diagnostics

Chantal Vogels¹, Orchid M Allicock¹, Doug E. Brackney^{2,1}, Chaney C Kalinich¹, Isabel M Ott¹, Nathan Grubaugh¹, Anne L Wyllie¹

¹Department of Epidemiology of Microbial Diseases, Yale School of Public Health;
²Department of Environmental Sciences The Connecticut Agricultural Experiment Station

Emma Ganley protocols.io

WORKS FOR ME 1

COMMENTS 0

RUN

BOOKMARK

COPY / FORK

MORE ↓

STEPS WARNINGS MATERIALS METADATA

When Viewing



Commenting on Private or Public Protocols

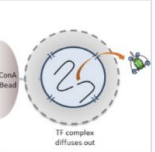
The screenshot shows a protocol titled "Isolation of Single Nuclei" by Anita Bröllochs. The protocol is divided into sections: "Preparations" (2h) and "Isolating Nuclei" (5h). Step 1, "Prepare solutions as described in the materials section," includes a note: "Be sure to keep all solutions On ice." Step 2, "Add 0.5 ml Buffer A to the tissue segments," is marked with a pipette icon and a 2m duration. Step 3, "Incubate at 5 °C for 00:30:00," is marked with a smartphone icon and a 30m duration, and includes a note: "Be sure to wear gloves and protective goggles." A comment from Anita Bröllochs, dated April 19, 2020, is visible on the right side of the page, stating: "Let's move this into the before starting section of the protocol." The interface includes navigation tabs for "Steps", "Abstract", and "Metadata", and buttons for "COPY / FORK" and "EXPORT".

Provide feedback via comments to your colleagues as you develop and optimize your protocol



Commenting on Private or Public Protocols

Steven Henikoff / Publications / CUT&RUN: Targeted in situ genome-wide profiling with high efficiency for low cell



CUT&RUN: Targeted in situ genome-wide profiling with high efficiency for low cell numbers V.1

Peter J. Skene¹, Steven Henikoff¹
¹Howard Hughes Medical Institute, Basic Sciences Division, Fred Hutchinson Cancer Research Center, Seattle, Washington, USA 98109

9 Works for me Share dx.doi.org/10.1101/288111

Version 1
 Jan 16, 2018
 Run Bookmark Copy / Fork

Human Cell Atlas Method Development Community

Steven Henikoff
 Fred Hutchinson Cancer Research Center

Steps Guidelines Warnings Materials Forks Metadata

ABSTRACT

Cleavage Under Targets and Release Using Nuclease (CUT&RUN) is a method for identifying protein-DNA interactions. It involves antibody-targeted controlled cleavage by micrococcal nuclease (MNase) of crosslinked chromatin, followed by isolation of the supernatant for paired-end DNA sequencing. As only a small fraction of DNA is digested, the majority of DNA is left behind, CUT&RUN has exceptional resolution compared to most widely used Chromatin Immunoprecipitation (ChIP) methods. In contrast to ChIP, CUT&RUN is not dependent on crosslinking and can be used to profile insoluble chromatin and to detect low-abundance interactions. We present an improved CUT&RUN protocol that does not require crosslinking and can be performed starting with only 100 cells for a histone modification analysis. This protocol and purified DNA CUT&RUN requires less than a day at the laboratory.

In summary, CUT&RUN has several advantages over ChIP. (1) It does not require crosslinked cells and does not require chromatin fragmentation or solubilization; (2) The intrinsically low

Search in comments

I thanks a lot

Dan
 REPLY

Marie Gunthel Mar 26, 2019
 Dear authors,

Thank you for providing this very detailed protocol.

I would like to use the method for nuclei isolated from cardiac mouse tissue. Therefore I always start with snap frozen material. However, I am wondering if I can use snap frozen tissue for the CUT&RUN protocol? I read in your protocol that this can lead to background DNA breakage when using cells.

Thank you in advance,
 Marie Günthel

REPLY

Derek Janssens Mar 26, 2019
 Hi Marie,

We have performed CUT&RUN on snap frozen tissue, but have not tried isolating nuclei from

temperature Wash buffer
 liquid. (wash 2/2)

B I

Comment or ask a question about this step. Proto...

private comment ? Cancel Post

Wash buffer by g

Add Private or Public comments

Protocol owner is Notified

Public Comments == A Public FAQ



Protocol Import Service

Protocol Entry
Starting at \$50.00

Enter Code

+
Upload File

Don't have a file? [Attach a link](#)

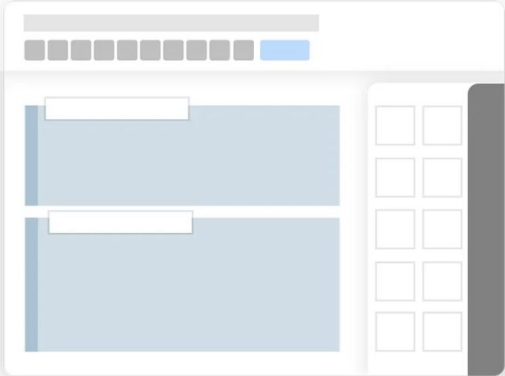
View: [What to include in the PDF of your protocol](#)

View: [How to make your protocol more reproducible, discoverable, and user-friendly](#)

Note

CONTINUE

[See terms and conditions for protocol entry](#)



- 1. Send us your protocol.**
Submit your protocol in whichever format it currently is (pdf, docx, etc.).
- 2. We import and format your protocol.** Our editorial team will enter the protocol and double check it to make sure there are no errors or typos relative to the document that you provided.
- 3. You review the digitized protocol.** We will send you the protocol for review.
- 4. Publish at any time.** If all looks good, the protocol will be reassigned to you privately and you will be able to publish it whenever you're ready.

<https://www.protocols.io/we-enter-protocols>



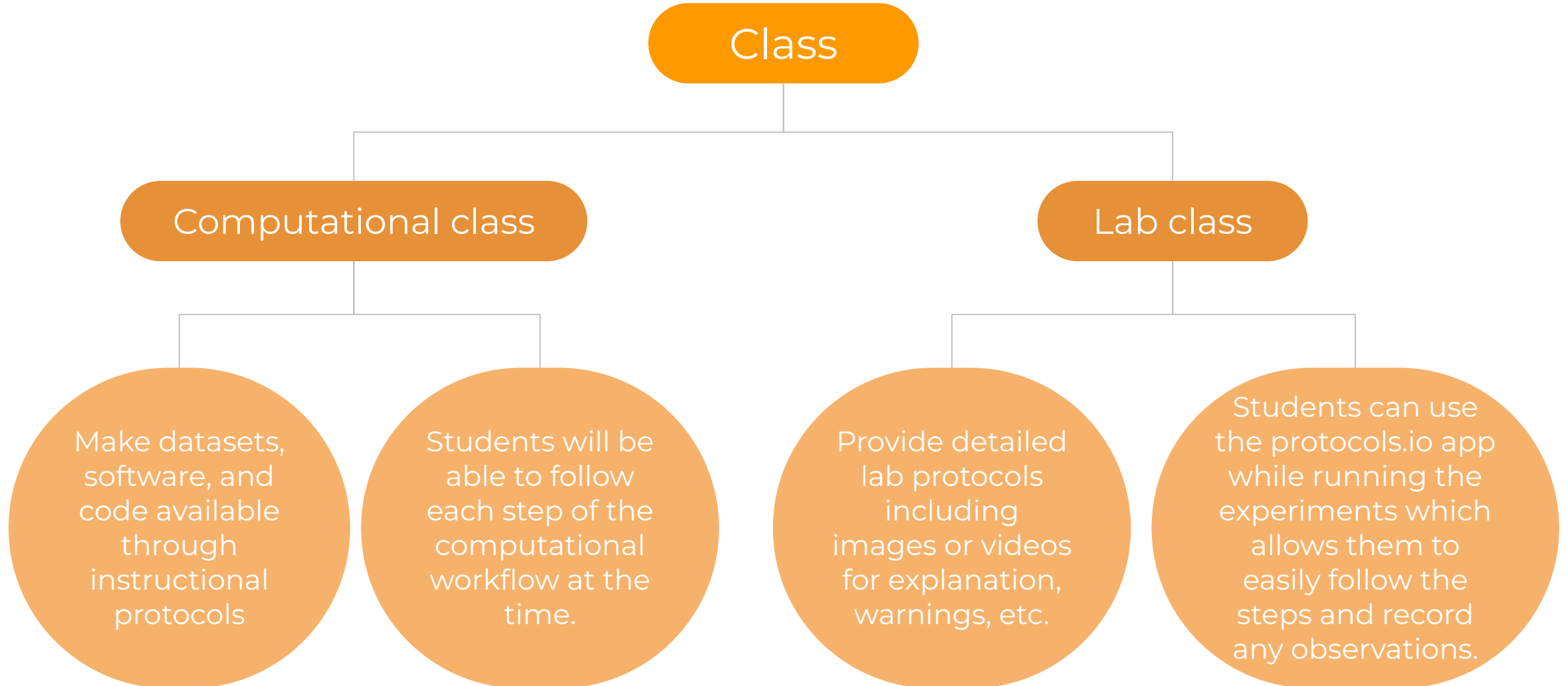
Protocol Import Service

→ Access & Track via Profile

A screenshot of a user profile dropdown menu. At the top, there is a search icon, the word "SEARCH", a notification bell with a red "3", a calendar icon, and a circular profile icon with the letter "E". Below this, the user's name "Emma Ganley" is displayed next to a larger circular profile icon with "E". A list of menu items follows: "FILE MANAGER", "PROFILE" (highlighted), "BOOKMARKS", "MESSAGES", "INVITE COLLEAGUES", "HELP", and "SIGN OUT".

A screenshot of a user profile page for "Emma Ganley". The page header includes a search icon, "SEARCH", a notification bell with a red "3", a calendar icon, and a circular profile icon with "E". The profile section features a large purple circular profile picture with "E", the name "Emma Ganley", and a sub-header "ID Create or Connect your ORCID ID". Below the profile picture are two statistics: "FOLLOWING 0" and "FOLLOWERS 0". A row of action buttons includes "EDIT PROFILE" (with a pencil icon), "MESSAGES" (with a speech bubble icon), and "MANAGE CATEGORIES" (with a triangle and circles icon). A second row of buttons includes "SETTINGS" (with a gear icon) and "PROTOCOL ENTRY" (with a document icon and a checkmark), which is circled in red.

protocols.io for Teaching





Check if your Organisation has a Site License

- Unlimited Premium use
- Unlimited private files
- Efficient protocol management
- Improved collaboration
- Training
- More reproducible publications
- Protocol import

The screenshot shows the protocols.io website. The top navigation bar includes a menu icon, the logo, and links for FEATURES, PLANS, BLOG, and CASE STUDY. On the right, there are 'SIGN IN' and 'SIGN UP' buttons, with the 'SIGN UP' button circled in red. The main content area features the headline 'Bring structure to your research' and a sub-headline 'A secure platform for developing and sharing reproducible methods.' Below this is a search bar. A secondary navigation bar lists categories: procedures, safety checklists, instructions / manuals, biology, and chemistry. The bottom section highlights three key benefits: 'Organize & collaborate' (Central and secure place to organize up-to-date/versionable), 'Accelerate research' (Dynamic and interactive methods, runnable, precise), and 'Avoid mistakes' (Create and discover reproducible experimental and computational methods with video, reagents, ...). An inset shows the 'Create your account' form with fields for Email and Password, a checkbox for email consent, and buttons for 'CREATE FREE ACCOUNT', 'SSO CONTINUE WITH SSO', 'CONTINUE WITH ORCID', and 'CONTINUE WITH GOOGLE'. A 'SIGN IN' link is also present for existing users.

Check If Your Organization Already Has Premium Access

Select organization ▾

- Select organization
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- Carnegie Mellon University

<https://www.protocols.io/institutions/>

Contact info@protocols.io if you'd like advice on how to advocate for a license at your organisation



Agenda



1. **Why Sharing Methods Matters**
2. **Introduction to protocols.io**
Mission & Key Functionality
3. **Navigating protocols.io**
Public repository
Create and share protocols
Publish protocols
Protocol Entry Service
4. **Q&A**



Key Benefits

- ★ Support Collaboration
- ★ Increase Discoverability
- ★ Reproducibility
- ★ Enable Reuse
- ★ Credit & recognition for method development
- ★ Dynamic Permanence (Versioning)
- ★ Improved Materials & Methods
- ★ Stewardship of Research Output

Accelerate Science





Q/A

emma@protocols.io



Chan
Zuckerberg
Initiative 

PROTOCOL CITATION

Zita Santos, Patrícia Francisco, Margarida Anjos, Célia Baltazar, Ana Paula Elias, Gabriela Tondolo Fioreze, Pavel M. Itskov, Matthew D. W. Piper, Carlos Ribeiro (2018). Methods and protocols from 2017 Leitão-Gonçalves et al. for manipulating the diet and the microbiome of *Drosophila*. protocols.io dx.doi.org/10.17504/protocols.io.r89d9z6

MANUSCRIPT CITATION please remember to cite the following publication along with this protocol

Leitão-Gonçalves R, Carvalho-Santos Z, Francisco AP, Fioreze GT, Anjos M, Baltazar C, Elias AP, Itskov PM, Piper MDW, Ribeiro C (2017) Commensal bacteria and essential amino acids control food choice behavior and reproduction. PLoS Biol 15(4): e2000862. doi:10.1371/journal.pbio.2000862

Practicalities & Preservation

- Daily backups
- Archived in CLOCKSS
- Dynamic content archived with CZI
- Public content mirrored on GitHub & Internet Archive
- Public APIs
- Export (PDF, JSON)
- Integrated with some ELNs
- Citable