



User Guide

JoVE Journal & Science Education

October 2016

What is JoVE?

[JoVE](#) is the world's first and only peer reviewed and PubMed Indexed scientific video journal.

JoVE has published over 5,000 video articles from institutions including Harvard, Stanford, MIT, and the NIH.

These video articles present cutting-edge research in over a dozen fields of scientific study and are viewed by millions of users in over 900 institutions around the globe.



JoVE's Solutions



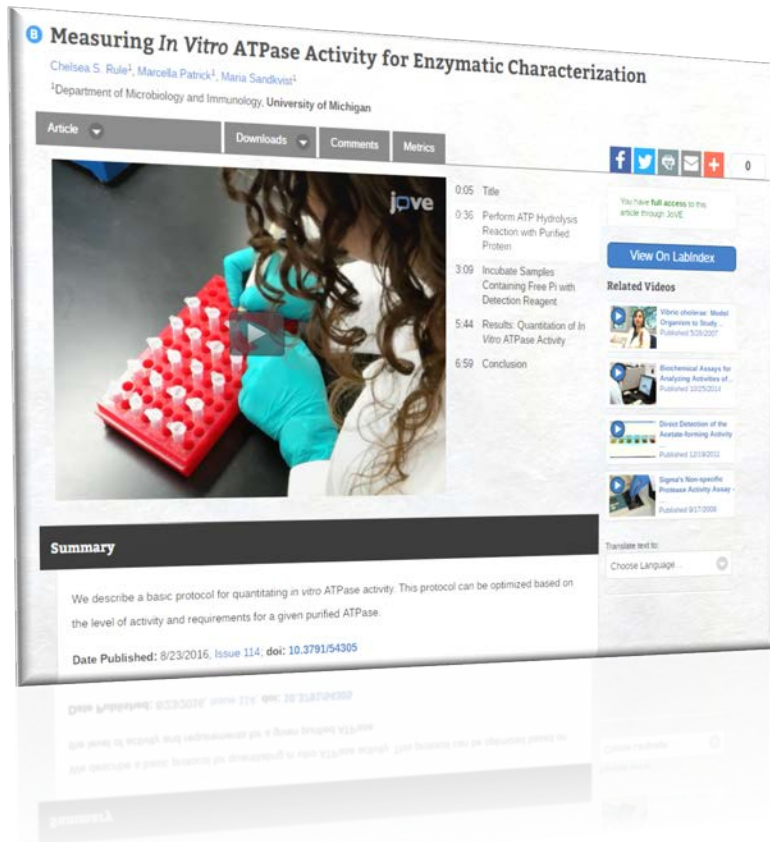
JoVE Journal

The first scientific video journal dedicated to help scientists advance their research by increasing productivity, efficiency, and reproducibility.

Science Education

An innovative video database that is dedicated to teaching laboratory fundamentals through simple, easy-to-understand video demonstrations.

JoVE Journal



- Peer-reviewed by our prestigious editorial board
- Indexed in PubMed, Medline, SciFinder, etc.
- Over 5000 articles – 90 new video articles published each month
- Customized subscription model by section (13 sections)
- Over 16,000 published authors from top institutions worldwide

Journal Sections



Biology



Immunology & Infection



Chemistry



Developmental Biology



Behavior



Biochemistry



Cancer Research



Medicine



Neuroscience



Bioengineering



Engineering



Environment



Genetics

JoVE Home Page & Navigation

The screenshot shows the JoVE website interface with the following elements highlighted by numbered callouts:

- 1** Keyword Search: Located in the top navigation bar, next to the search input field.
- 2** Sign In or Create An Account: Located in the top right corner, next to the 'Sign In' button.
- 3** JoVE Journal: Located in the main content area, featuring a list of journal categories (Biology, Neuroscience, Medicine, Bioengineering, Engineering, Genetics, Cancer Research, Immunology and Infection, Chemistry, Behavior, Environment, Developmental Biology, Biochemistry).
- 4** Science Education: Located in the main content area, featuring a list of science education topics (Basic Biology, Advanced Biology, Psychology, Environmental Sciences, Chemistry, Clinical Skills).
- 5** Newest Journal Videos: Located in the bottom navigation bar, under the 'Newest Journal Videos' section.
- 6** Recent Science Education Video: Located in the bottom navigation bar, under the 'Newest Science Education Videos' section.

The main content area also features a video player showing a hand holding a test tube, with the title 'Assessing Retinal Microglial Phagocytic Function In Vivo Using a Flow Cytometry-based Assay'.

1 Keyword Search

2 Sign In or Create An Account

3 JoVE Journal

4 Science Education

5 Newest Journal Videos

6 Recent Science Education Video

Journal Search & Results

The screenshot shows the JoVE website search results for the query 'stem cells'. The page is annotated with five numbered red circles highlighting key features:

- 1** 4149 Video Articles (Number Of Produced Video)
- 2** 1 2 3 4 5 6 7 8 9 ... 415 (Page Buttons (Current And All))
- 3** Refine your search: (Advanced Search Options)
- 4** CONTAINS stem cells (Search Query)
- 5** High Efficiency Differentiation of Human Pluripotent Stem Cells to Cardiomyocytes and Characterization by Flow Cytometry (Search Results By Order Of Relevance)

The search results list includes the following article:

High Efficiency Differentiation of Human Pluripotent Stem Cells to Cardiomyocytes and Characterization by Flow Cytometry
Subarna Bhattacharya¹, Paul W. Burridge², Erin M. Kropp¹, Sandra L. Chuppa¹, Wai-Meng Kwok³, Joseph C. Wu², Kenneth R. Boheler^{4,5}, Rebekah L. Gundry^{1,6}
¹Department of Biochemistry, Medical College of Wisconsin, ²Stanford Cardiovascular Institute, Stanford University School of Medicine, ³Department of Anesthesiology, Medical College of Wisconsin, ⁴Stem Cell and Regenerative Medicine Consortium, LKS Faculty of Medicine, Hong Kong University, ⁵Division of Cardiology, Johns Hopkins University School of Medicine, ⁶Cardiovascular Research Center, Biotechnology and Bioengineering Center, Medical College of Wisconsin

Isolation and Expansion of Mesenchymal Stem/Stromal Cells Derived from Human Placenta Tissue
Rebecca A. Pelekanos¹, Varda S. Sardesai¹, Kathryn Futrega², William B. Lott², Michael Kuhn², Michael D. Bernstein^{2,3}

1 Number Of Produced Video

2 Page Buttons (Current And All)

3 Advanced Search Options

4 Search Query

5 Search Results By Order Of Relevance

Filter Search Result:

- Filter By Section
- Filter By Publish Date
- Filter By Authors or Institutions
- Search For Videos By Keywords

Journal Article Page (top of article)

The screenshot shows the top of a JoVE article page. At the top is a navigation bar with links for Librarians, Users, Authors, and About. Below this is a search bar with the text "Search by keywords, for example: 'stem cells'" and a "Sign Out" button. The article title is "Eye-Tracking Control to Assess Cognitive Functions in Patients with Amyotrophic Lateral Sclerosis". Below the title are the authors' names and their affiliations. A video player is embedded on the left side of the page, showing a woman in a lab setting. To the right of the video player is a table of contents with timestamps. On the far right, there is a "Related Videos" section with a list of related articles. Five numbered callouts are placed over the page: 1 points to the author names, 2 points to the article title, 3 points to the "Downloads" button, 4 points to the video player, and 5 points to the "Related Videos" section.

1 Clicking On The Name Displays The Author's Publication History

2 Click Here To Jump To Different Sections Of The Article

3 Download The Article Or Materials List As PDF

4 Article Chapter Selection

5 List Of Related Videos

Journal Article Page (scroll down page)

The screenshot shows a web browser at www.jove.com. The page has a navigation bar with links for Librarians, Users, Authors, and About. A search bar is present with the text "Search by keywords, for example: 'stem cells'". Below the navigation bar, there is a paragraph of text: "tailored for and tested on mouse preimplantation embryos and ESCs; nevertheless its performance on other systems with high nuclear density, although yet untested, is expected to be equivalent."

The main content area is titled "Protocol" and contains an "Ethics statement: All animal work, including husbandry, breeding and sacrifice was approved by Memorial Sloan Kettering Cancer Center's Institutional Animal Care and Use Committee (IACUC), protocol #03-12-017."

The section "1. Embryo Collection" is highlighted. It includes a note: "Note: All animal work must have been approved by institutional and local authorities and conform to local and institutional rules."

The protocol steps are listed:

1. Mate a virgin female mouse with a fertile stud male of the desired genotypes.
Note: If setting up natural matings, selecting females in the estrus phase of the estral cycle increases the chances of copulation on the desired date. If inducing superovulation, please refer to the protocols described in ²⁰.
2. Check the presence of a vaginal plug in the morning using a blunt probe. Ideally, do this before noon (12:00 pm), as copulation plugs are lost throughout the day. Consider noon of detection of the vaginal plug embryonic day (E)0.5.
3. On the desired day and time of embryonic development, warm up M2 or flushing holding medium (FHM) to RT or, preferably, 37 °C. Note: Either M2 or FHM can be used for flushing and handling embryos. When not in use, store these media at 4 °C. Estimate the use of ~2 ml of medium for each uterus.

On the right side of the page, there is a video player. The video title is "Embryo Collection". The video player shows a person in a lab coat performing a procedure. A red circle with the number "2" is overlaid on the video player.

1 Scroll Down To Read The Full Length Article Text

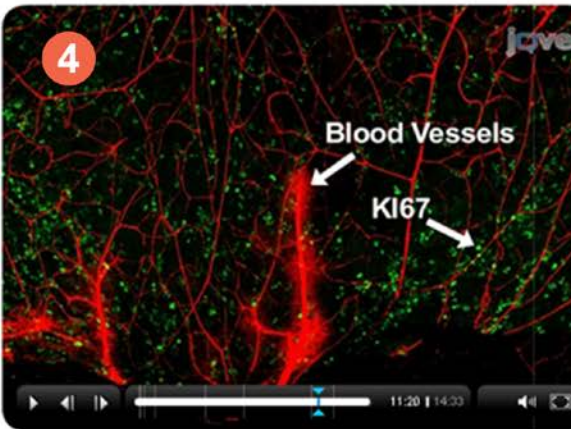
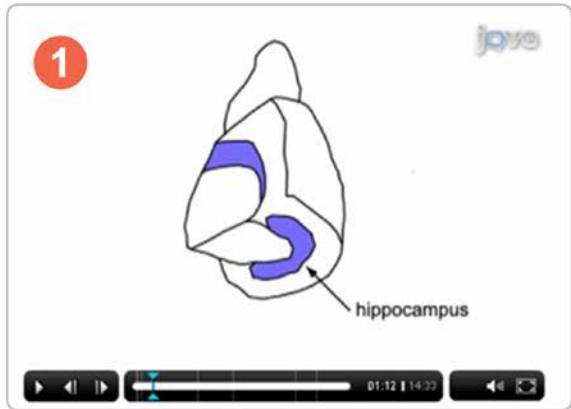
2 Article Video Sticks To The Right Of The Text For Easy Access

The text article is made up of various sections including:

- Cite this Article
- Abstract
- Introduction
- Protocol
- Results
- Discussion
- Materials List
- References

* You can download a PDF of the text article

Journal Article Structure



1 Abstract

2 Introduction

3 Protocol

4 Results & Discussion

Journal Publication Process



Journal Benefits

- Increase **research productivity** and **reproducibility**
- **Quickly onboard** new lab trainees
- **Save money and resources** for labs
- Learn **gold-standard** and **newest methods**

“Methods are complex and can only partially be described in words. Seeing the method performed immediately provides a wealth of information to the viewer. This information conveys a realistic idea of how the method is done, what is needed to do it, and helps the viewer analyze how they should proceed.”



*Dr. Michele Calos,
Stanford University*

Science Education (SE)



- Laboratory Fundamentals
- Simple, Easy to Understand Video Demonstrations
- Engaging Animations
- 300 professionally produced core videos with over 40 hours of tutorial content
- Video content maps directly to classes
- Flipped Classroom Tool
- JoVE Quiz Testing Tool

SE Volumes & Collections

SE Basic Biology

General Laboratory Techniques
Basic Methods in Cellular and Molecular Biology
Essentials of Biology 1: yeast, *Drosophila* and *C. elegans*
Essentials of Biology 2: Mouse, Zebrafish, and Chick

SE Advanced Biology

Essentials of Neuroscience
Essentials of Developmental Biology
Essentials of Genetics
Essentials of Cell Biology

SE Clinical Skills

Essentials of Physical Examinations I
Essentials of Physical Examinations II

SE Psychology

Essentials of Behavioral Science
Essentials of Experimental Psychology
Essentials of Cognitive Psychology
Essentials of Developmental Psychology

SE Environmental Sciences

Essentials of Environmental Science
Essentials of Environmental Microbiology
Essentials of Earth Science

SE Chemistry

Essentials of General Chemistry
Essentials of Organic Chemistry
Essentials of Analytical Chemistry

SE Video Demonstration Page

The screenshot shows the JoVE website interface. At the top, there is a search bar (1) with the text "Search by keywords, for example: 'stem cells'". Below the search bar, there are navigation tabs for "Librarians", "Users", "Authors", and "About". The main content area features a video player (4) showing a person lighting a Bunsen burner. To the right of the video player, there is a table of contents (3) with the following items:

| Time | Section |
|------|---------------------------------------------|
| 0:00 | Overview |
| 0:36 | Bunsen Burner Components |
| 2:08 | Bunsen Burner Operation and Types of Flames |

Below the table of contents, there is a text box (5) with the following text:

To use a Bunsen burner, first make sure the collar is closed.

To ensure that you have the hottest, cleanest flame possible, make sure your rubber tubing is securely connected to the gas jet and to the gas inlet valve. A heatproof mat can be placed under the Bunsen burner as an extra safety precaution to prevent damage to your bench top and to catch stray sparks. Before lighting, place the Bunsen burner at least 12 inches in front of any overhead shelving or equipment and be mindful of loose hair or clothing.

1 Search Bar

2 JoVE Quiz

3 Timeline And Overview

4 Closed Captioning

5 Printable PDF Transcript

SE Quiz Creation (step 1)

www.jove.com

Manage your JoVE Quizzes

Welcome!

Use this page to create quizzes for your students about JoVE videos, as well as see results.

Your Existing Quizzes

| Quiz Name | Article ID | Results | Actions |
|--------------------------------------------------------------------------------------------------|------------|---------|---------|
| You have not issued any quizzes. Use the "Create a New Quiz" section below to create a new quiz. | | | |

Create a New Quiz

1 Collection: Select... *

Collection: Essentials of Biology 1: yeast, Drosophila and C. elegans *

Article: An Introduction to Saccharomyces... *

Quiz Name: 5081_Question_Set_V1

* Email Addresses: (comma separated) **2**

1 Select the collection you wish to create a quiz for and then select the article title.

2 Enter the email addresses or listserv address of the quiz taker(s).

SE Quiz Creation (Step 2)

www.jove.com

Create a New Quiz

Collection: Essentials of Biology 1: yeast, Drosophila and C. elegans *

Article: An Introduction to Saccharomyces... *

Quiz Name: 5081_Question_Set_V1 *

Email Addresses: (comma separated) *

Questions may be ordered however you would like just drag and drop them where you would like them to be.

Question 1: What characteristic of *S. cerevisiae* classifies it to the Kingdom *Fungi*?

Answers:

- It has membrane-bound nuclei.
- It has a cell wall made of chitin.
- It is unicellular.
- It is multicellular.

In: Choose File No file chosen

Add Question

Review Quiz

3 These are preset questions written by our in-house scientists who have put together the collections. You can add, edit, or remove these questions here. Select the correct answer if you are customizing the quiz.

4 You may also include an image for reference by clicking "Choose File" and selecting your image.

5 Confirm and preview your quiz before sending it out to the recipients in (2).

SE Benefits

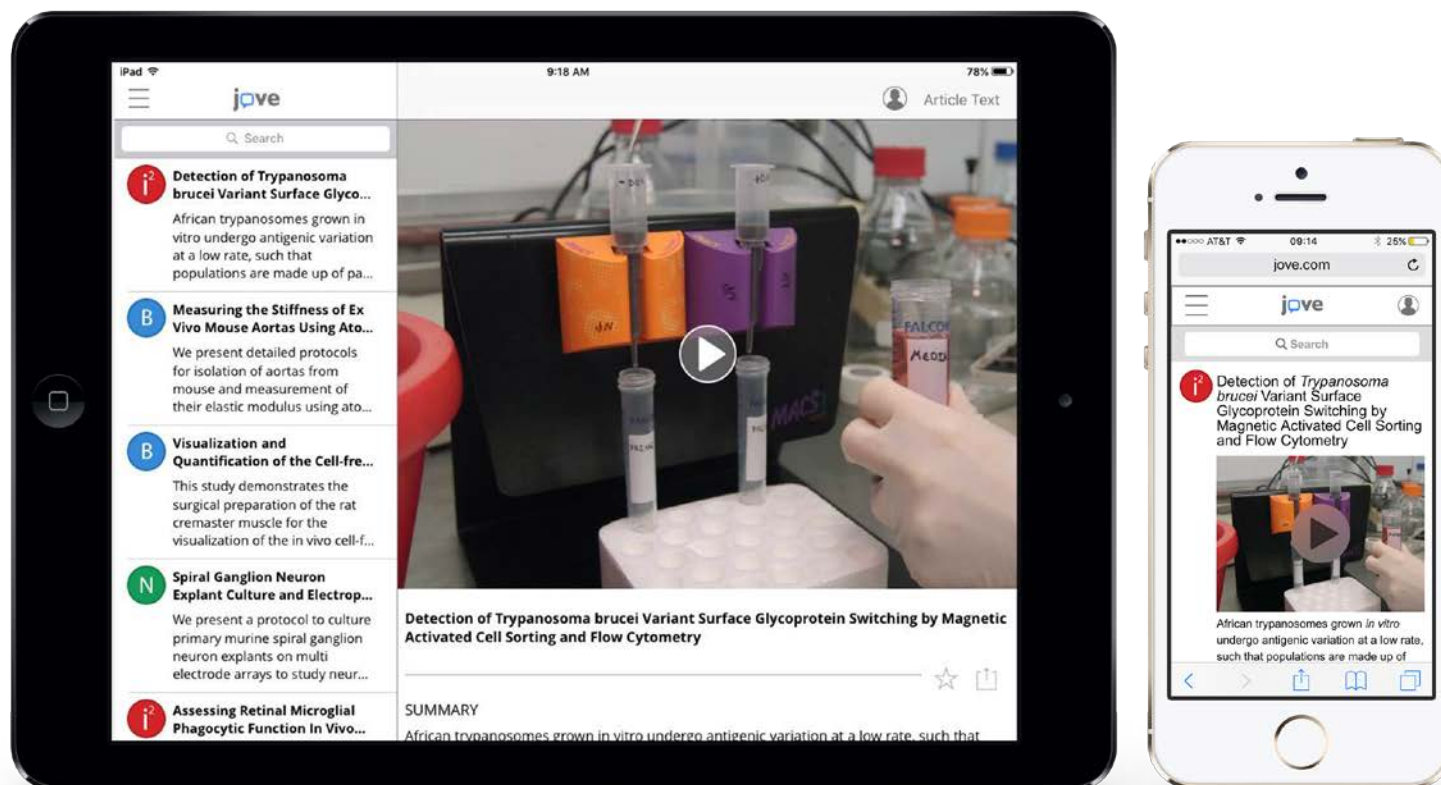
- **Increased speed of learning** in laboratory and classroom environments
- **Saved time and work for teaching faculty**
- Consistent **growth in student success**, learning outcomes, and **STEM retention**
- Support both undergraduate and graduate instruction

“
Initially it took multiple tries, whereas now when we teach this technique with the JoVE video we have a success rate between 90 to 100 percent.”

Dr. Carrie Northcott
Michigan State University



JoVE Access Anywhere



JoVE Account Creation (Off-Campus Access)

The screenshot shows the JoVE website's account creation interface. On the left, a 'Sign In' modal is open, with a red circle '1' highlighting the 'Email' field. The main page is titled 'Create a JoVE account'. It includes a sign-in section on the left and a registration section on the right. The registration section has a heading 'Creating an account is easy and free.' followed by a paragraph explaining the benefits of an account. Below this is a section for optional information: 'For the best experience using JoVE, please tell us a little more about yourself.' which includes fields for Research Area, Affiliation, Institution, Department, and Position. A red circle '3' is placed over this section. At the bottom of the registration section is a CAPTCHA challenge with a red circle '4' and a 'Create Account' button with a red circle '5'. A disclaimer at the bottom states: 'By clicking "Create Account", you agree to our policies.'

Welcome, JoVE. [Learn more about access.](#)

1 Sign In

Email

Password

Sign In

Create an Account

Forgot Password

Sign in with Shibboleth

1 Sign in with your institutional email OR create an account.

Create a JoVE account

Creating an account is easy and free.

With an account you can use your institution's subscription even when off campus, and you can post questions for article authors. Please note that the domain of your email address must match a subscribing institution for access to be granted.

Wondering if your institution subscribes to JoVE? See our subscriber list.

More information about JoVE subscriptions is available here or contact our subscriptions department directly.

Fields marked with an asterisk (*) are required.

First Name: *

Last Name: *

Institutional Email: *

Password: *

Verify Password: *

2 Fill out mandatory fields.

For the best experience using JoVE, please tell us a little more about yourself.

Research Area: *

Affiliation: Select... *

Institution: *

Department: *

Position: *

3 Optional fields that maximize your JoVE experience.

Please enter the text you see below.

4 Enter the CAPTCHA

Type the text you see below.

Privacy & Terms

5 Click "Create Account" and you're done!

By clicking "Create Account", you agree to our policies.

Create Account

Contact JoVE

Technical Questions:

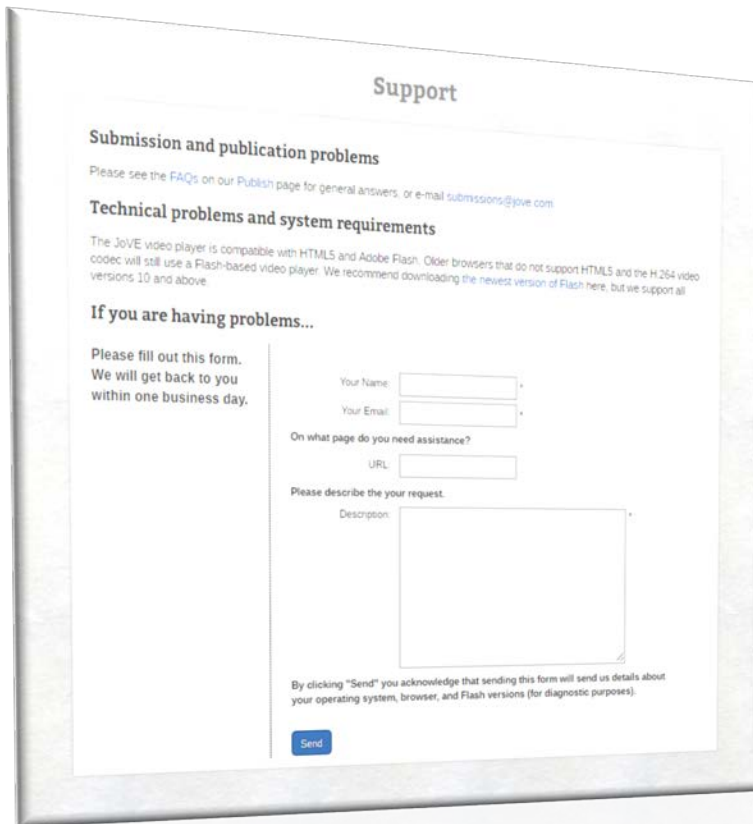
Contact Support via our website at
www.jove.com/about/contact

Subscription Questions:

Contact Library Relations
Email: subscriptions@jove.com
Tel: +1.617.401.7717

Publication Questions:

Contact our Editorial team at
submissions@jove.com



The screenshot shows a web page titled "Support". It has two main sections: "Submission and publication problems" and "Technical problems and system requirements". The "Technical problems and system requirements" section contains a paragraph about video player compatibility. Below this is a form titled "If you are having problems...". The form includes fields for "Your Name", "Your Email", "On what page do you need assistance?" (with a "URL" field below it), and "Please describe your request." (with a "Description" text area below it). At the bottom of the form is a "Send" button. A disclaimer at the bottom of the form states: "By clicking 'Send' you acknowledge that sending this form will send us details about your operating system, browser, and Flash versions (for diagnostic purposes)."