

# JoVE VIDEO JOURNAL CATALOG

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## The first scientific video journal

dedicated to advancing science by increasing reproducibility and efficient knowledge transfer. The video articles present cutting-edge research in over a dozen fields of scientific study and are viewed by millions of users in over 1,000 institutions around the globe.

- **Peer-reviewed**
- **Indexed** in PubMed, Medline, Web of Science, etc.
- **16,000+** authors from world-leading labs
- High-quality **video demonstrations** of experiments
- Detailed **text protocols**



“Clear communication of methods is critical in promoting rigor and producing reproducible results. However, just reading about methods often does not communicate as well as having a video resource such as JoVE.”

Dr. Mouhsin Shafi  
Neurology, Harvard Medical School

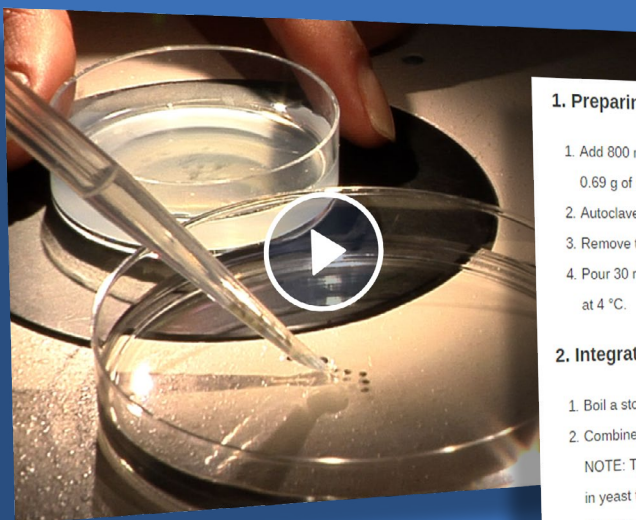
“JoVE is a resource that’s unlike any other resource that we have here at the library. I would recommend it to other librarians, especially those working with medical students or any kinds of researchers that really could take advantage of a unique visual platform.”



Whitney Bates-Gómez  
Electronic Librarian, Memorial Sloan Kettering Cancer Center

High-quality video  
demonstrations

Detailed  
text protocols



#### 1. Preparing -LEU Dropout Plates

1. Add 800 mL of sterile, deionized water ( $\text{DIH}_2\text{O}$ ) to a 2 L flask. Add 26.71 g of dropout base (DOB) powder, 0.69 g of CSM-Leu, and 20 g of agar. Mix with a magnetic stir bar. Bring to 1 L with  $\text{DIH}_2\text{O}$ .
2. Autoclave at 121 °C and 19 psi for 30 min.
3. Remove the flask from the [autoclave](#) and allow it to cool to ~65 °C with gentle stirring.
4. Pour 30 mL/plate into 100 mm diameter plates. Let these sit at room temperature for 36-48 h before storing at 4 °C.

#### 2. Integrating GFP-Tub1 for the Constitutive Expression of GFP-labeled Tubulin

1. Boil a stock [concentration](#) of 10 mg/mL single-stranded DNA (ssDNA) for 3 min.
2. Combine 2  $\mu\text{L}$  of boiled ssDNA with 400 ng of purified GFP-Tub1 [plasmid](#) DNA<sup>11</sup>.  

NOTE: There are a variety of [plasmids](#) that can be used for the stable, fluorescent labeling of microtubules in yeast that utilize alternative [fluorophores](#) and selectable markers. Some of these alternatives are described in the Discussion section.
3. Add the DNA mixture to a 50  $\mu\text{L}$  aliquot of competent yeast cells.

7,000 Published Articles 100+ New Articles Published Monthly

## JoVE helps Researchers, Teaching Faculty, and Students



Increase Productivity and Reproducibility



Maximize Time, Resources, and Budget



Accelerate and Standardize Knowledge Transfer



Improve Learning Outcomes in STEM

## JoVE Video Journal publishes across a wide scope of scientific subjects:

- BEHAVIOR
- BIOCHEMISTRY
- BIOENGINEERING
- BIOLOGY
- CANCER RESEARCH
- CHEMISTRY
- DEVELOPMENTAL BIOLOGY
- ENGINEERING
- ENVIRONMENT
- GENETICS
- IMMUNOLOGY & INFECTION
- MEDICINE
- NEUROSCIENCE

### BEHAVIOR

JoVE Behavior includes observational and experimental approaches that seek to understand human and animal behavior.

Topics include:

- Cognitive Neuroscience
- Cognition (Attention, Reasoning, Decision Making)
- Virtual Reality and Perception
- Sexual and Motivational Behaviors
- Social Awareness and Interactions
- Learning and Memory
- Sleep and Circadian Rhythms
- Linguistics
- Addiction
- Emotion
- Control of Movement
- Consciousness

**BIOCHEMISTRY**

JoVE Biochemistry publishes experimental approaches to investigate the structure, function, and interactions of biological molecules.

Topics include:

- Biomolecule Structure and Function
- Cellular Metabolism
- Lipid and Membrane Biochemistry
- Protein-protein and Protein-nucleic Acid Interactions
- Protein Folding, Modification, and Enzymology
- Bioseparation and Purification

**BIOENGINEERING**

JoVE Bioengineering features the application of engineering tools in life sciences to study biological processes and develop new therapies and diagnostics.

Topics include:

- Tissue Engineering
- Biosensors
- Bio-imaging Techniques and Equipment
- Cell Topography
- Therapeutic Materials
- High Throughput Analysis
- Microfluidics
- Synthetic Substrates and Materials for Bio-applications
- Robotic Therapeutics

## BIOLOGY

JoVE Biology publishes standard techniques and novel experimental approaches in the fields of cellular, molecular, and organismal biology aimed at understanding the functions of life and living organisms.

Topics include:

- Cell Signaling Pathways and Cell Communication
- Bioinformatics
- Gene Sequencing
- Cellular and Molecular Imaging
- Cellular and Genetic Therapeutics
- *In vivo* and *in vitro* Models of Disease
- Protein Interactions and Kinetics
- Metabolism
- Models of Aging

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## CANCER RESEARCH

JoVE Cancer Research illustrates experimental approaches in biomedical research and clinical practice aimed at understanding, detecting, treating and preventing cancer.

Topics include:

- Oncogenesis and Tumor Suppression
- Tumor Angiogenesis and Host-tumor Interactions
- Mutagenesis and Metastasis of Cancer Cells
- Cancer stem cells
- Cancer biomarkers
- Cancer Epigenetics, Genetics, and Genomics
- *In vivo* and *In vitro* Tumor Models
- Tumor Imaging
- Cancer Therapeutics and Surgical Oncology

**CHEMISTRY**

JoVE Chemistry includes fundamental and applied research in organic, inorganic, analytical and physical chemistry.

Topics include:

- Structural Characterization
- Electronic Spectroscopy
- Nuclear and Electronic Characterization (NMR, EPR, etc.)
- Electrochemistry
- Molecular Kinetics
- Mass Spectrometry
- Synthesis and Purification
- Column Chromatography
- Synthetic Biology
- Structural Biology

**DEVELOPMENTAL BIOLOGY**

JoVE Developmental Biology covers research studies of biological development at all levels, ranging from cellular to whole organisms.

Topics include:

- Gametogenesis and Fertilization
- Embryogenesis
- Morphogenesis and Organogenesis
- Stem Cell Biology and Nuclear Reprogramming
- Regeneration and Repair
- Mechanisms of Differentiation
- Genetic and Epigenetic Control of Development
- Evolutionary Developmental Biology
- Aging and Senescence

## ENGINEERING

JoVE Engineering is dedicated to research methods across different fields of engineering including mechanical, electrical, materials and chemical.

Topics include:

- Device Fabrication
- Electronic Systems
- Optics and Photonics
- Applied Mechanics
- Materials Science
- Advanced Manufacturing

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## ENVIRONMENT

JoVE Environment is dedicated to studies that seek to better understand Earth's ecosystem, address environmental concerns and suggest solutions for protecting natural resources.

Topics include:

- Alternative Energy Sources
- Biofuels
- Green Chemistry
- Environmental Engineering
- Ecology
- Marine Biology
- Oceanography
- Soil and Agricultural Sciences
- Ecotoxicology and Ecological Health
- Forestry and Botany
- Atmospheric Sciences and Geoscience



**GENETICS**

JoVE Genetics covers a wide array of experimental approaches used to investigate gene function, gene regulation, epigenetics, genetic disorders, population genetics and evolution.

Topics include:

- Gene Discovery and Genetic Screens
- Gene Regulation, Function, and Expression
- DNA Replication, Repair, and Recombination
- Chromosome Biology and Genome Organization
- Epigenetics
- Evolutionary Genetics
- Sequencing Technologies
- Comparative and Functional Genomics
- Medical Genetics and Gene Therapy

**IMMUNOLOGY & INFECTION**

JoVE Immunology and Infection covers studies of the immune system, mechanisms of infection, biological response to pathogens, as well as therapeutic agents and their efficacy in treating diseases.

Topics include:

- Microbiology
- Immunology
- Allergic Diseases
- Immune Cell Development and Autoimmune Diseases
- Pathogenic Bacteria, Fungi, Parasites, Viruses, and Infectious Prions
- *In vitro* and *in vivo* Modeling of Pathogenesis
- Global Health Studies
- Epidemiological Techniques

## MEDICINE

JoVE Medicine connects biomedical research and clinical medicine featuring case studies, clinical procedures, surgeries, clinical trial methodologies and animal models of disease and treatment.

Topics include:

- Internal Medicine
- Clinical Trials
- Animal Models of Disease
- Surgical Subspecialties (Cardiothoracic, Neuro, Orthopedic, Oral and Maxillofacial, Transplant, etc.)
- Clinical Teaching Resources
- Human Physiology
- Oncology
- *In vivo* Imaging Techniques (Ultrasound, CT, PET, MRI)

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## NEUROSCIENCE

JoVE Neuroscience is devoted to the study of the brain and nervous system; also featuring potential treatments for neurological diseases.

Topics include:

- Cellular and Molecular Neurobiology
- Systems Neuroscience
- Development and Neural Plasticity
- Neurobiology of Disease
- Electrophysiology
- Neurogenesis and Neural Stem Cells
- Neurosurgery and Neuroimaging
- Spinal Cord Injury Models
- Neurotransmitters and Neuronal Cell Signaling

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Yale University



"The students find JoVE very useful, I can show a technique once and they can go watch it over and over which is what you have to do for a lot of biological experiments."



Dr. Morven A. Cameron  
Medical School, Western Sydney University



JoVE is the leading producer and publisher of video resources with the mission to increase the productivity of research and education in science, medicine, and engineering. Established in 2006, JoVE has produced over 7,000 video articles demonstrating experiments filmed in laboratories at top research institutions and delivered online to millions of scientists, educators, and students worldwide.

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