

## Springer Protocols User Guide

### Browse

Browsing on Springer Protocols is easy.

- Click on a category either on the homepage or on any other site page.

The screenshot shows the Springer Protocols homepage. At the top left is the Springer Protocols logo. To the right of the logo is a navigation bar with links for HOME and MY ACCOUNT. Below the logo is a search bar with a 'Search' button and a link to 'Advanced Search'. On the left side, there are several menu items: 'Upload a Protocol', 'Protocol Alert', 'Video Protocols', 'Comments', and 'Favorites'. In the center, there is a 'Browse by Subject' section with a grid of subject categories including Biochemistry, Biotechnology, Cell Biology, Imaging/Radiology, Infectious Diseases, Molecular Medicine, Pharmacology/Toxicology, Protein Science, Bioinformatics, Cancer Research, Genetics/Genomics, Immunology, Microbiology, Neuroscience, and Plant Sciences.

- Continue browsing by clicking on subcategory(ies) or years(s) to refine your browse results.

The screenshot shows the Springer Protocols search results page for Biochemistry. The top navigation bar includes a search bar with 'Go' and 'ADVANCED SEARCH' buttons, and links for HOME and MY ACCOUNT. Below the navigation bar is a 'Browse by Subject' section with a list of subjects and their counts: Analytical Chemistry (100), Electrophoresis (64), Enzymology (37), Human Physiology (18), Nucleic Acid Chemistry (112), and Proteomics (29). Below this is a 'Browse by Year' section with a list of years and their counts: 2007 (61), 2004-2006 (357), 2001-2003 (70), 1998-2000 (107), and 1995-1997 (20). The main content area shows the search results for 'Biochemistry'. It includes a breadcrumb trail 'Home >> Biochemistry', the title 'Protocols in Biochemistry', and the number of results 'Results 1 - 10 of 625'. There are options for 'Standard' and 'Condensed' views, a 'Sort results by' dropdown menu set to 'Relevance', and a '10 per page' dropdown menu. Below this are two search results, each with a 'Free' icon, a 'Subscribed' icon, and a 'Trial' icon. The first result is 'Conventional Specimen Preparation Techniques for Transmission Electron Microscopy of Cultured Cells' by John J. Bozzola, published Feb-27-2007, with a DOI of 10.1007/978-1-59745-294-6\_1. The second result is 'Cell-Free Extract Systems and the Cytoskeleton: Preparation of Biochemical Experiments for Transmission Electron Microscopy' by Margaret Coughlin, William M. Brieher, and Ryoma Ohi, published Feb-27-2007, with a DOI of 10.1007/978-1-59745-294-6\_10.

## Search

You can perform a quick search from any page on the site for a set of immediate results that can be sorted by date, author, and title.

**Search Protocols**

Advanced Search

SEARCH   [ADVANCED SEARCH](#) [HOME](#) | [MY](#)

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**Results 1 - 10 of 382** [1](#) [2](#) [3](#) [4](#) [5](#) [6](#) [7](#) [8](#) [9](#) [10](#) [Next>>](#)

Search results for: Text "mutagenesis" - any of the words/ (Protocol search)

[Save search results](#)

Sort results by:   per page

Free  Subscr

Random Muta  smid PCR Amplification

**Author(s):** Donghak Kim, F. Peter Guengerich  
**Pub. Date:** Apr-01-2002; **DOI:** 10.1385/1-59259-177-9:241  
**Summary:** Random **Mutagenesis** by Whole-Plasmid PCR Amplification **Mutagenesis** is a popular tool used in the analysis of protein structure and function. Polymerase chain reaction (PCR)-based **mutagenesis** can be...  
[Abstract](#) | [Full Text](#) | [PDF \(154K\)](#)

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**EMS Mutagenesis of Arabidopsis**

**Author(s):** YongSig Kim, Karen S. Schumaker, Jian-Kang Zhu  
**Pub. Date:** Mar-15-2006; **DOI:** 10.1385/1-59745-003-0:101  
**Summary:** EMS **Mutagenesis** of Arabidopsis A powerful approach for determining the biological functions of genes in an organism is to produce mutants with altered

You can also filter these results through a relevant list of subjects and time periods, enabling you to quickly narrow down long lists of articles to a short list of your desired results. For searches that you may perform often, or for very detailed searches, once you find your desired results, you can save that search to your account for use at a later time.

Welcome. Sign in [here](#). New user? Register [here](#).

**Results 1 - 10 of 24** [1](#) [2](#) [3](#) [Next>>](#)

Search results for: Text "mutagenesis" - any of the words/ published between 2004 to 2006/ subject "Cell Biology"/ (Protocol search)

[Save search results](#)

Sort results by:   per page

Free  Subscribed  Trial

**Identification of Apoptosis Regulatory Genes Using Insertional Mutagenesis**

**Author(s):** Joëlle Thomas, Yann Leverrier, Anne-Laure Mathieu, Jacqueline Marvel  
**Pub. Date:** May-20-2004; **DOI:** 10.1385/1-59259-812-9:275  
**Summary:** Identification of Apoptosis Regulatory Genes Using Insertional **Mutagenesis** This chapter describes a retroviral insertion **mutagenesis** approach using replication-deficient myeloproliferative sarcoma...  
[Abstract](#) | [Full Text](#) | [PDF \(219K\)](#)

Should you wish to have further refined results, use the Advanced Search feature, also located on every page. Use the advanced search feature to define your result list by any combination of keyword, abstract, title, author, subject, and date.

SEARCH  Go ADVANCED SEARCH HOME | M

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### Browse by Subject

- Biochemistry (863)
- Bioinformatics (87)
- Biotechnology (163)
- Cancer Research (532)
- Cell Biology (1052)
- Genetics/Genomics (1019)
- Imaging/Radiology (79)
- Immunology (397)
- Infectious Diseases (287)
- Microbiology (623)
- Molecular Medicine (621)
- Neuroscience (414)
- Pharmacology/Toxicology (200)
- Plant Sciences (383)
- Protein Science (800)

### Advanced Search

Select Option  Protocols  Books

Anywhere in Text:   any  all  exact phrase

Keywords:   any  all  exact phrase

Abstract:   any  all  exact phrase

Title:   any  all  exact phrase

Author/Editor:  e.g. Smith JS, Jones D

Series:

Volume No:

EISBN:

Subject:

Year:  through

DOI:

Sort by:

Results: View  per page

### Upload a Protocol

Upload your own protocols for personal use.

## Personalization

Springer Protocols allows you to personalize the site environment to suit your own needs. You can save search results for use at a later time, set up your My Protocols page, and manage alerts to be notified when desired content has been posted.

- When browsing the site, should you find articles on the site that you want to single out or visit again later, you can add them to your My Protocols area with the click of a button so you can easily find them without having to search or browse again.

The screenshot shows the article page for "Hydrolysis of Hemicelluloses Using Combinations of Xylanases and Feruloyl Esterases" by Craig B. Faulds, Paul A. Kroon, Begofa Bartolomé, and Gary Williamson. The page includes a search bar, a navigation menu, and a table of contents. The abstract states: "Hemicelluloses are heteropolysaccharides that occur in many plant cell walls. Usually hemicelluloses consist of a xylan backbone highly substituted with sugar side chains and with acetyl, feruloyl, coumaroyl, and other groups; the polymer is linked to protein, cellulose, and other cell wall components. The hemicellulose component of the cell wall helps prevent infection, provides strength, and protects against other external agents. Plant pathogens hydrolyze the plant cell wall, including the hemicellulose component, prior to invasion, and dead plant cell walls are degraded by Saprophytic fungi and other microbes to utilize the components as energy. This digestive process also occurs in ruminants and in the colon of humans, and is catalyzed by gut microflora." The page also lists the affiliation (Biochemistry Department, Institute of Food Research, Norwich Research Park, Norwich, UK), the book title (Carbohydrate Biotechnology Protocols), and the series information (Methods in Biotechnology, Volume 10, Pub. Date: Jul-23-1999, Page Range: 183-195, DOI: 10.1007/978-1-59259-261-6\_15).

- To add your own content, use the Upload a Protocol feature to add your own protocols to your My Protocols area, where they can be saved alongside your favorites.

The screenshot shows the "Upload a Protocol" form. It includes a "Browse by Subject" sidebar with categories like Biochemistry (863), Bioinformatics (87), Biotechnology (163), Cancer Research (532), Cell Biology (1052), Genetics/Genomics (1019), Imaging/Radiology (79), Immunology (397), Infectious Diseases (287), Microbiology (623), Molecular Medicine (621), Neuroscience (414), Pharmacology/Toxicology (200), Plant Sciences (383), and Protein Science (800). The main form area is titled "Upload a Protocol" and contains the following information:

- Welcome to Upload a Protocol!**
- You may upload a protocol (or protocols) in this area for your own private reference. If you so choose, you may also send your protocol to Springer Protocols to be considered for publication.
- Upload Guidelines:**
  - › To upload a protocol, please complete the required fields below and click "Submit."
  - › Please submit your file in Word or PDF.
  - › Only one file may be submitted, so please embed any figures and tables within the body of the document.
  - › Do not submit files greater than 7.0MB (7,000KB).
- All submitted protocols should contain the following sections:
  - › Introduction, Materials, Methods, Notes, References
- Protocol Title:\*** DNA Sequencing Issues
- First Author:\*** John Smyth
- Affiliation(s):\*** Grant University
- Co-authors** (with a small icon)
- | Author Name    | Affiliation         |
|----------------|---------------------|
| Carrie Sanchez | Carlisle University |
|                |                     |
|                |                     |
|                |                     |
- Protocol Information:\*** This article covers dna sequencing as related to ...

**My Protocols**

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 [My Uploaded Protocols](#)

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**My Favorite Protocols**

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**Hydrolysis of Hemicelluloses Using Combinations of Xylanases Feruloyl Esterases**  
**DOI:** 10.1007/978-1-59259-261-6\_15  
**Pub. Date:** Jul-23-1999  
[Abstract](#) | [Full Text](#) | [PDF \(122K\)](#)

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**Electron Crystallography of Membrane Proteins**  
**DOI:** 10.1007/978-1-59745-294-6\_16  
**Pub. Date:** Feb-27-2007  
[Abstract](#) | [Full Text](#) | [PDF \(543K\)](#)

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**My Uploaded Protocols**

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**Protein Determination**  
**Author(s):** John Smyth<sup>1</sup>, Stanley Frank<sup>2</sup>  
**Date Submitted:** Dec-18-2007  
[Abstract](#) | [Protocol](#)

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**DNA Sequencing Issues**  
**Author(s):** John Smyth<sup>1</sup>, Carrie Sanchez<sup>2</sup>  
**Date Submitted:** Dec-18-2007  
[Abstract](#) | [Protocol](#)

All your favorite protocols and saved searches can also be viewed from your My Account page.

**My Account**

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	<a href="#">Edit Account</a>		<a href="#">My Protocols</a>
	<a href="#">Manage Alerts</a>		<a href="#">Saved Search Results</a>
	<a href="#">Logout</a>		

To manage your alerts, click Manage Alerts and choose the subject collections that you wish to receive e-mail notification for.

### Alerts

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**Keep yourself on the cutting-edge! Receive email notifications about new content on Springer Protocols. Email updates include a hyperlinked table of contents, allowing you to browse and access new content right from your inbox.** \* required

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E-Mail

First Name

Last Name

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**Subjects\***

<input checked="" type="checkbox"/> Biochemistry	<input type="checkbox"/> Bioinformatics
<input type="checkbox"/> Biotechnology	<input type="checkbox"/> Cancer Research
<input checked="" type="checkbox"/> Cell Biology	<input checked="" type="checkbox"/> Genetics/Genomics
<input type="checkbox"/> Imaging/Radiology	<input type="checkbox"/> Immunology
<input type="checkbox"/> Infectious Diseases	<input type="checkbox"/> Microbiology
<input type="checkbox"/> Molecular Medicine	<input type="checkbox"/> Neuroscience
<input type="checkbox"/> Pharmacology/Toxicology	<input type="checkbox"/> Plant Sciences
<input type="checkbox"/> Protein Science	

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I do not wish to receive alerts.

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**E-mail Format\***

HTML     Text-Only

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We prefer to send our customers HTML formatted emails whenever possible. HTML formatted emails provide you with improved design and readability. For the purposes of data protection legislation, submitting this page will indicate you have opted-in, and provided direct consent to receive the e-alerts you have selected. To find out more about our commitment to confidentiality and data protection, please see our [privacy policy](#).

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## RSS

Use RSS feeds to keep up to date with the latest Springer Protocols content! By choosing an RSS feed for one or more of our subject collections, you can be notified when new content is posted to the site for that particular collection. You will find the title and abstract in your news aggregator or reader. To use RSS, you must choose a news aggregator or a reader. These are software applications that can collect RSS feeds from many Web sites. You can choose a reader from the list on our RSS page, or use your own.

### RSS Feeds

Use RSS (really simple syndication) feeds to keep up to date with the latest Springer Protocols content! By choosing an RSS feed for one or more of our subject collections, you can be notified when new content is posted to the site for that particular collection. You will find the title and abstract in your news aggregator or reader. To use RSS, you must choose a news aggregator or a reader, a software application that can collect information from many Web sites. If you do not have one, you can choose from one listed on our RSS page or you may choose one of your own. We do not recommend any specific reader/aggregator, but provide a short list for convenience. RSS feeds are convenient because, since you can have feeds from multiple Web sites going into one reader/aggregator on your computer, you can view samples of this content without having to visit so many Web sites. Springer Protocols RSS feeds are part of the Springer Protocols Web site. By using any or all of these feeds, you consent to be bound by our [terms of use](#).

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-  [Cell Biology](#)
-  [Genetics/Genomics](#)
-  [Imaging/Radiology](#)

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-  [NewzCrawler](#)
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-  [RSSOwl](#)

Sub	Title	Date	Author	Subject
<input checked="" type="checkbox"/>	Manipulation of Cell-Cell Adhesion Using Bowtie-Shaped Microwells	2/25/2007 1:30 PM		
<input checked="" type="checkbox"/>	Analysis of Focal Adhesions and Cytoskeleton by Custom Microarray	2/25/2007 1:30 PM		
<input checked="" type="checkbox"/>	Proteomic Analysis of Cell Surface Membrane Proteins in Leukemic Cells	2/25/2007 1:30 PM		
<input checked="" type="checkbox"/>	Bioinformatic Analysis of Adhesion Proteins	2/25/2007 1:30 PM		
<input checked="" type="checkbox"/>	Analysis of Integrin Dynamics by Fluorescence Recovery After Photobleaching	2/25/2007 1:30 PM		
<input checked="" type="checkbox"/>	Double-Hydrogel Substrate as a Model System for Three-Dimensional Cell Culture	2/25/2007 1:30 PM		
<input checked="" type="checkbox"/>	In Vitro Actin Assembly Assays and Purification From Acanthamoeba	2/25/2007 1:30 PM		
<input checked="" type="checkbox"/>	Separation of Cell-Cell Adhesion Complexes by Differential Centrifugation	2/25/2007 1:30 PM		
<input checked="" type="checkbox"/>	Analysis of Neutrophil Chemotaxis	2/25/2007 1:30 PM		
<input checked="" type="checkbox"/>	Analysis of Leukocyte Migration Through Monolayers of Cultured Endothelial Cells	2/25/2007 1:30 PM		
<input checked="" type="checkbox"/>	Biochemical Purification of Pseudopodia from Migratory Cells	2/25/2007 1:30 PM		
<input checked="" type="checkbox"/>	Dynamic Assessment of Cell-Matrix Mechanical Interactions in Three-Dimensional Culture	2/25/2007 1:30 PM		
<input checked="" type="checkbox"/>	Quantitative Analyses of Cell Adhesion Strength	2/25/2007 1:30 PM		
<input checked="" type="checkbox"/>	Using RNA Interference to Knock Down the Adhesion Protein TES	2/25/2007 1:30 PM		

## Springer Protocols

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### Contents of this article

- 1 Introduction
- 2 Materials
  - 2.1 Cell Culture
  - 2.2 Immunohistochemistry
  - 2.3 Microarray
- 3 Methods
  - 3.1 Cell Culture
  - 3.2 Immunohistochemistry ( Fig. 1 )

### Analysis of Focal Adhesions and Cytoskeleton by Custom Microarray

By: [Matthew J. Dalby](#)<sup>2</sup>, [Stephen J. Yarwood](#)<sup>3</sup>

**Abstract**

[Full Text](#) | [Download PDF \(238K\)](#)    

Focal adhesions and the cell cytoskeleton (intermediate filaments, microfilaments, microtubules) are involved in mechanotransduction—both direct (transduction of mechanical forces to the nucleus) and indirect (transduction of chemical signaling cascades to the nucleus). Thus, observation of changes in focal adhesion and cytoskeletal organization can be invaluable in research such as drug treatments and medical material testing in vitro. Here we describe how to stain human fibroblasts for vinculin (located to focal adhesions), actin (microfilaments), tubulin (microtubules), and vimentin (intermediate filaments) and how to perform custom microarray experiments. Comparative analysis of the immunofluorescence and array data should allow the researcher to build up a global picture of changes to both direct and indirect mechanotransduction through the cell-surface. Some

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### Useful Tools

## Protocols

For your convenience, there are two ways to view each protocol. Click on the Download PDF link to view the protocol exactly as it appears in the published print work. To view the protocol with special personalization and community features, click the Full Text link to view the HTML version of the article. Using the full-text HTML, you can:

- Search for the authors on Springer Protocols or on PubMed.
- Trigger an immediate keyword search on Springer Protocols by clicking any one of the key words listed beneath the abstract.
- Use the contents of this article box to jump directly to any of the main areas of the protocol.
- Use our hypertext links to jump to other sections of the protocol, or to specific notes, references, figures, and tables.
- Download the Materials and Reference sections right to your desktop.

The screenshot shows a web page for a protocol. At the top, there is a search bar and navigation links for HOME, MY ACCOUNT, and MY PROTOCOLS. The user is logged in as John Smyth. The main content area is titled "Manipulation of Cell-Cell Adhesion Using Bowtie-Shaped Microwells" by Celeste M. Nelson, Wendy F. Liu, and Christopher S. Chen. It includes their affiliations, the book title "Adhesion Protein Protocols", and series information. A "Download PDF (170K)" button is visible. The abstract describes a method for studying cell-cell adhesion using microfabricated stamps. On the left, there is a "Contents of this article" sidebar with sections like Introduction, Materials, Methods, Notes, and References. Below that is a "Browse by Subject" section with categories like Biochemistry (863), Bioinformatics (87), and Biotechnology (163). On the right, there are sections for "Inside Springer Protocols" (New, Free, Popular Protocols, Tour) and "Useful Tools" (Related Books, Similar Protocols, Export Citation, Comment, Recommend).

You can share with others by e-mailing the protocol to a colleague or tagging it to one of your favorite bookmarking sites.

The form is titled "E-mail a friend" and contains the following fields and content:

- \*Your Name: John Smyth
- \*Your e-mail: test1@test1.com
- \*Your Friend's name: Sally Hernandez
- \*Your Friend's e-mail: s.hernandez@test.com
- Subject: Murine Model Protocol
- Message: Thought you might like to read this.  
John

At the bottom of the form are "Send" and "Cancel" buttons. Below the form, there is a row of four icons: a printer, a document, a folder, and a green square.

## A Murine Model for Studying Hematopoiesis and Immunity in Heart Failure

By: Per Ole Iversen<sup>2</sup>, Dag R. Sørensen<sup>3</sup>

### Abstract

Full Text | Download PDF (463K)

Recent epidemiological research indicates that a coexistent anemia among patients with heart failure might worsen their prognosis. However, whether the reduced synthesis of red blood cells is a contributing factor to the development and progression to overt heart failure, or whether it simply is a mere consequence of a dysfunctional heart, remains to be elucidated. Studies in mice with experimentally induced acute myocardial infarction leading to subsequent development of a postinfarction congestive heart failure have shed some light on this problem. Careful analyses of the number and of the functions of various hematopoietic cells residing in either blood or bone marrow point to a possible inhibitory role of cytokines, such as tumor necrosis factor  $\alpha$ , on hematopoiesis. The present protocol

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### Useful Tools



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Export Citation



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Recommend to your library administrator

**Title:** A Murine Model for Studying Hematopoiesis and Immunity in Heart Failure

**Author(s):** Per Ole Iversen, Dag R. Sørensen

**Book Title:** Target Discovery and Validation Reviews and Protocols: Volume 1, Emerging Strategies for Targets and Biomarker Discovery

**Series:** Methods in Molecular Biology

**DOI:** 10.1385/1-59745-165-7:269

### Comments

Results 1 - 2 of 2

Submit

Cancel

### Comments

By **John Smyth** Dec-13-2007 06:35 AM

This study should encourage further studies of hematopoiesis and immunity in heart failure by using a combination of animal models with state-of-the-art techniques in molecular biology to define and validate possible targets for therapy.

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<input type="checkbox"/> Cell Biology	<input type="checkbox"/> Genetics/Genomics
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<input type="checkbox"/> Molecular Medicine	<input type="checkbox"/> Neuroscience
<input type="checkbox"/> Pharmacology/Toxicology	<input type="checkbox"/> Plant Sciences
<input type="checkbox"/> Protein Science	

**I am making this recommendation for the following reason(s):**

We hope you enjoy your visit to Springer Protocols. Thank you.